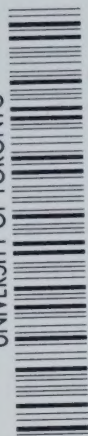


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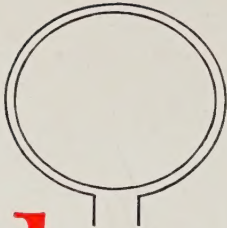
JANVIER

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Radiation therapy: effects on jaw growth • Fluoridation, fluid intake and climatic temperature • Choosing a dental assistant • Surgical treatment of horizontally fractured maxilla • Faculté de chirurgie dentaire, U. de Montréal • L'Association dentaire canadienne • Substances anormales formées par l'épithélium dentaire • C.D.A. Retirement Savings Plan • Plan d'épargne-retraite A.D.C.



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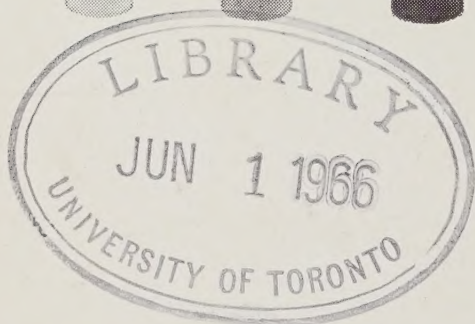
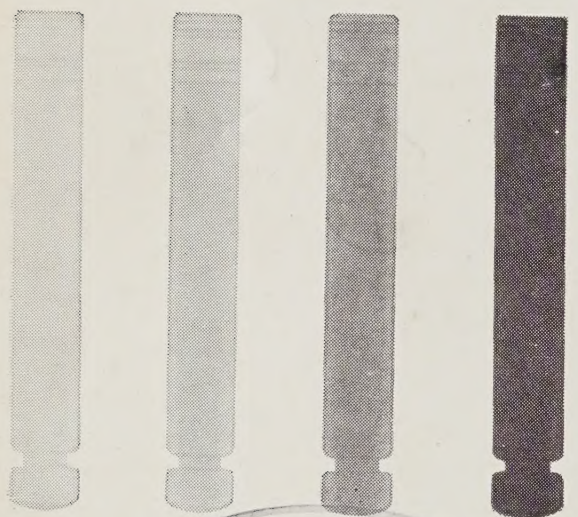


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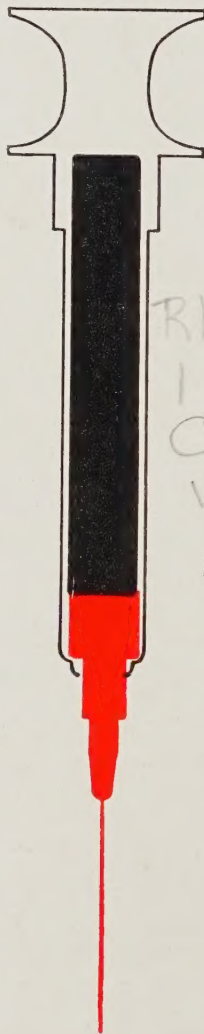


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Effects of radiation therapy in childhood upon growth of the jaws

W. B. Donohue,* D.D.S., M.Sc., C. A. Durand, D.D.S., and
C. Baril,† D.D.S., M.S., Montreal, P. Quebec

Stunting or total absence of tooth roots and micrognathia are reported in a 21-year-old male who received radiation therapy for a fibrosarcoma of the left maxillary sinus 14 years earlier. A concomitant example of idiopathic resorption is also described.

■

Un garçon de sept ans a été traité, en 1948, à l'Hôtel-Dieu de Montréal, pour un fibrosarcome du maxillaire supérieur. Il a reçu 9,000 r. de radiation rayons-x au maxillaire, et un autre 1,400 r. au cou. Quatorze ans plus tard, il fut examiné par les auteurs qui ont constaté l'éruption de dents sans racine. Ceci est intéressant parce qu'une des théories pro-

posée pour expliquer l'éruption des dents se base sur la croissance de la racine dentaire et sur l'activité mitotique et vasculaire des tissus pulpaire à l'apex de la dent. Chez ce patient, on pouvait remarquer un sous-développement des maxillaires et une résorption atypique d'une des incisives, probablement un exemple de résorption idiopathique périphérique. On croit que l'éruption des dents sans racine peut se faire par l'apposition ralentie de tissu osseux ou par la croissance du follicule dentaire. La diminution des dimensions des maxillaires semble être causée par un ralentissement de l'apposition osseuse, et non par une diminution des dimensions des dents tel que suggéré par certains auteurs.

Several reports have appeared in the literature dealing with the effects of radiation therapy on the jaws. However, most of these deal with patients who have been irradiated as adults while being

treated for a malignant tumour. There have been few reports dealing with the effects of x-ray irradiation on the developing human dentition because malignant tumours of the jaws are rare in children.^{1,2}

This case is reported because of the interesting dental and growth anomalies of the jaws that were noted 14 years following the initial radiation therapy.

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FIGURE 1 Casts of the irradiated patient are on the right, while comparative casts of a normal adolescent patient are shown on the left. Note the difference in the width and length of the arches.



FIGURE 2 Photograph of the upper teeth. Stunting of the lateral, cuspid, and the bicuspid teeth is evident. The incisor indicated by the arrow is shown in greater detail in Figure 4.

CASE REPORT

The patient, a young man of 21 years, was treated 14 years previously (in 1948) for a fibrosarcoma of the left maxillary sinus at the Hôtel-Dieu Hospital, Montreal. At that time he received a total of 9,000 r. delivered at 200 kv. over a nine month period, directed at both sides of the jaws. One year later in 1949, he received a further 1,400 r. directed at the lymph nodes of the neck and submaxillary regions.

The patient now (1962) presented with pigmentation of the skin in the region that was irradiated. There were also marked trismus and circumoral fibrosis which considerably hampered dental care.

Examination of the mouth revealed that 654321|16 and 65431|123456 were still present. The second molar teeth were embedded, and no trace of the third molars could be found on radiographic examination. The dimensions of the dental arches were smaller than normal both in their length and width (Figure 1). The teeth which had been removed because of periodontal disease and pain showed considerable stunting of the roots. This was evident in all teeth except the first molars and central incisors (Figure 2).

The radiographs of the second molars showed no root formation whatsoever, growth having ceased after the crowns had been formed (Figure 3).

One of the incisor teeth showed a peculiar caries-like lesion on the mesial surface of the root (Figure 4). This defect extended well below the free gingiva. It was partly filled with soft tissue, and it extended directly into the pulp chamber. Histological sections



FIGURE 3 Radiograph of the lower teeth showing cessation of root formation in the bicuspid and second molar. Clinically, the first molar was ankylosed.

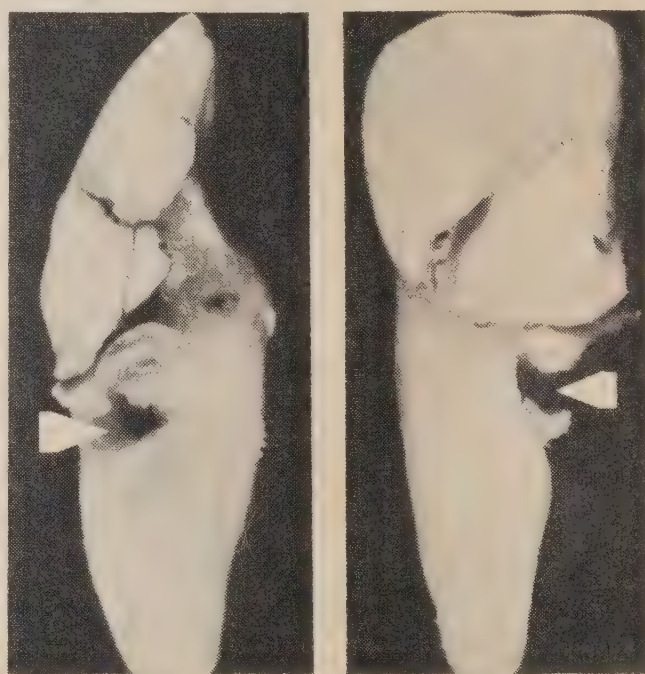


FIGURE 4 The arrows indicate the area of peripheral idiopathic resorption described in the text.

TABLE 1 Results of cephalometric analysis.

Measurements	Irradiated patient	Normal values ^{3,4}
SNA angle	79°	82°
SNB angle	72°	78°
Difference between SNA and SNB	7°	4°
Distance from glenoid fossa to the sella turcica	18 mm.	18 mm.
Sella turcica to the pterygomaxillary fissure	19 mm.	18 mm.
Length of maxilla	56 mm.	52 mm.
Length of mandible	95 mm.	103 mm.



FIGURE 5 Photomicrograph of the area shown in Figure 3. d, indicates dentine; b, bone; p, the pulp. Weigert's haematoxylin and eosin, x25.

showed fibrous tissue in the cavity and resting lines in the dentine which indicate previous active resorption of the dentine. Bone now covered these areas of former resorption (Figure 5). No bacterial invasion was noted in the surrounding dentine.

Study casts of the arches showed a lingual inclination of the upper incisor teeth, probably due to the circumoral fibrosis previously mentioned.

A cephalometric analysis of the patient showed interesting results (Table 1).

One may conclude from these measurements that the superior portion of the face seems to show normal dimensions and to be in a normal relationship with the base of the skull. A marked micrognathia is present; in effect the mandible is at least 8 mm. shorter than the accepted mean for adult males. The fact that the angle SNA is more acute than normal suggests either that the point N (nasion) is more anterior than normal in relation to the rest of the face, or that the point S (centre

of the sella turcica) is caudal to its normal position. The latter would indicate an underdevelopment of the base of the skull. In view of the radiation the patient received, this is the more likely explanation.

DISCUSSION

It is well known from clinical observations and experimental work that x-ray irradiation in sufficient amounts causes a cessation in the root formation of the teeth. It has long been supposed that one of the main forces causing the eruption of teeth is the mitotic and vascular activity of the pulpal tissues in the region of the apex, and the growth of dentine in length. Therefore, it is somewhat surprising to see that the stunted teeth of irradiated human beings and experimental animals will nevertheless in many cases eventually erupt into the mouth. Experimental evidence suggests that this

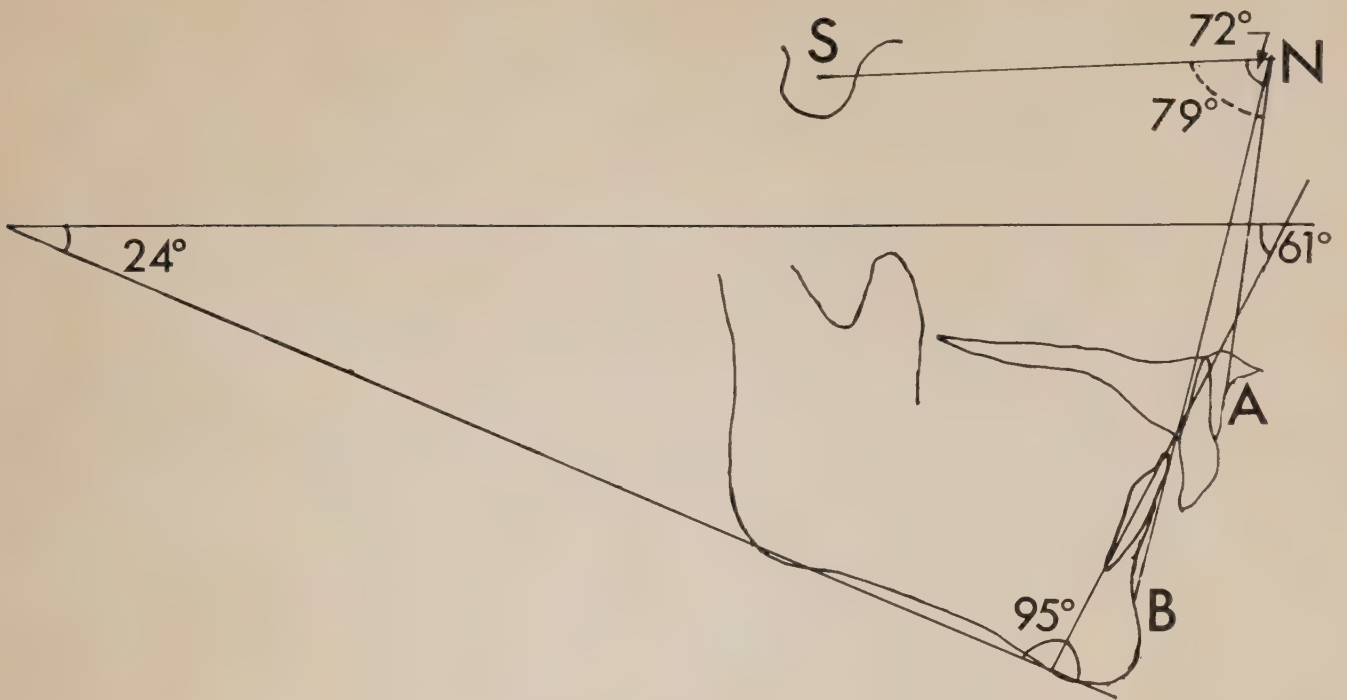


FIGURE 6 Tracing of a lateral skull radiograph of the patient, indicating angulations used in the cephalometric analysis. Landmarks are S, sella turcica; N, nasion; A, subspinale; B, supramentale.

is due to the continued, if retarded, rate of bone growth around the dental crypt, lifting the tooth towards the surface.⁵ Another possibility is that it is due to the continued growth of the tooth follicle.⁶ The fact that in this patient the second molar crowns remained embedded in the jaw may be due to decreased bone resorption along the anterior border of the ramus, so that these teeth were embedded in the anterior portion of the ramus. This occurs commonly in vertical impactions of the lower third molar in non-irradiated patients.

The absence of the third molars is due to the destruction of the *Anlage* by the radiation therapy.

The resorption seen in the central incisor did not resemble dental caries in its morphology. Probably this may have been a form of peripheral idiopathic resorption. Similar findings have been observed in young kittens subjected to irradiation (Figure 7).

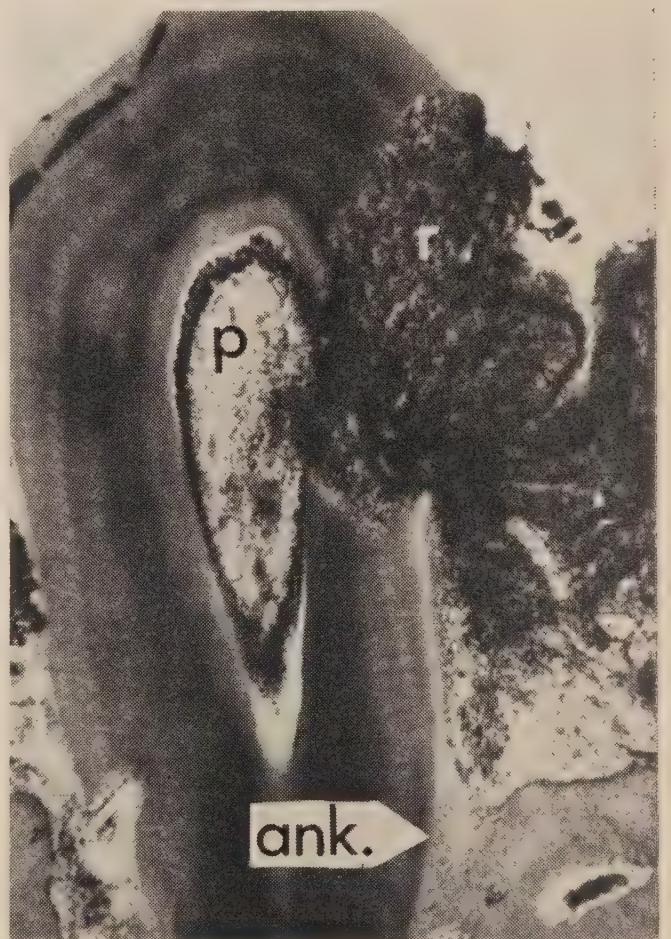


FIGURE 7 Photomicrograph of an area of lateral resorption (r) associated with intense inflammatory reaction in a domestic kitten, eight months following irradiation (2,000r at 110 kv). Note that the resorption extends directly into the pulp (p). An area of ankylosis (ank.) is also shown. Haematoxylin and eosin, x25.

The result of the cephalometric analysis in this case indicates a diminution in the dimensions of the jaws similar to that noted in experimental studies. Previous reports have indicated that this decrease in the dimensions of the jaws might be due to the decreased size of the teeth due to the x-ray irradiation.⁷ However, measurements, both in this case and in experimental animals, show that the dimensions of the jaws are decreased in the non-odontogenic as well as in the odontogenic areas. Furthermore, in cases of ectodermal dysplasia, where no teeth or few teeth are formed, the dimensions of the jaws fall within the normal range.⁸ This suggests that the underdevelopment seen in cases of x-ray irradiation during childhood is due to a reduction in the rate of bone formation, rather than a decrease in the size of the teeth.

SUMMARY

The effects of localized x-ray irradiation to the jaws of a child are described,

with particular reference to growth of the teeth and jaws. A comparison is made between the results observed in man and those seen in experimental animals. A case of peripheral idiopathic resorption is described.

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Fluid intake and climatic temperature: relation to fluoridation

A study of fluid intake in Edmonton children ten years of age and less revealed that the effect of climatic temperature on water intake at about 50°F. may be altered by the influence of the artificial environmental temperature created by heating of the home, school and indoors generally, and perhaps, to a degree, by the warm winter clothing worn by children in this part of western Canada. These findings may affect the recommended fluoride concentration in public water supplies of northern communities with a relatively lower mean annual temperature.

■

Des recherches entreprises sur la consommation de liquide chez les enfants d'Edmonton de dix ans et moins ont montré que la température environnante créée par le chauffage des habitations peut exercer une influence sur les effets de l'eau consommée à une température d'environ 50° F; les vêtements chauds portés par les enfants dans cette région de l'ouest du Canada peut aussi, jusqu'à un certain point, agir sur l'effet de l'eau contenant du fluor. Ces constatations peuvent affecter, dans ces régions où la moyenne de température est plutôt basse, la concentration en fluorure qui est généralement recommandée pour l'eau des aqueducs.

Under normal living conditions water intake varies directly with climatic temperature over a wide temperature range.¹ Water fluoride levels must be related to corresponding climatic temperatures to ensure optimum benefits from fluoridation of community water supplies.

A range of 1.0 to 1.5 ppm fluoride concentration was established as optimum for fluoridated community water supplies.² This range is satisfactory for a large number of communities in Canada and the United States. However in 1943, before fluoridation became an approved public health measure, Arnold had noted that factors in fluid intake, such as climate, should also be considered in determining optimum fluoride concentrations for potable water supplies.³ Subsequent studies proved the validity of this surmise.

Galagan and Lamson applied Dean's community fluorosis index in two areas with a marked difference in climate.² They showed that children in a warmer climate (Arizona—mean annual temperature approximately 70°F.) drink more water than those living in the cooler climate (midwest—mean annual temperature approximately 50°F.). Consequently, in relation to the fluoride concentration of the corresponding water supplies, there

This investigation was supported by National Health Grant 608-7-31 from the Department of National Health and Welfare.

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is an increased ingestion of fluoride in the warmer climate due to increased water consumption. Temperature, radiant heat gain and humidity are discussed as possible influencing climatic factors. But two other factors which may affect body water needs—body weight and physical activity—"will obviously not differ greatly between geographic areas."

Galagan found that temperature is the most important element of climatic environment.⁴ He recommended that fluoride concentration should be adjusted to climatic conditions.

Using direct measurement of fluid intake of children ten years of age and under in two California communities, Galagan et al¹ showed that water consumption increases directly with climatic temperature. Humidity has no important influence on fluid intake of children except perhaps in areas of high humidity and temperature.^{1,5}

Galagan and Vermillion subsequently developed a method for determining optimum fluoride levels for community water supplies in relation to climatic temperature.⁶ They published a table which relates recommended optimum fluoride levels to (five-year average) mean maximum temperatures for the range 50.0-90.5°F.

The United States Public Health Service publication, *Drinking Water Standards* (revised 1962) also provides a table of recommended optimum fluoride concentrations for communities having (five-year average) mean maximum temperatures that fall within the range 50.0-90.5°F.⁷

STATEMENT OF THE PROBLEM

According to the revised *Dietary Standards for Canada* 1.0 ppm fluoride is safe and effective for fluoridation.⁸ This figure has been adopted in Alberta by provincial law.⁹ But the mean maximum temperature in Edmonton, Alberta, falls below the range 50-90°F. Consequently, a refinement of standards for determining optimum fluoride levels related to temperature in this area may be indicated. Also data on fluid intake of children living in a community with a mean

maximum temperature less than 50°F. would be of value.

METHODS AND MATERIALS

The present study was patterned after the Antioch-Brentwood study of Galagan and Vermillion. Its purpose was to estimate by direct measurement the fluid intake of Edmonton children 10 years of age and less, under normal living conditions, and then relate this intake to temperature.

Edmonton, Alberta, has a population of approximately 303,000. Located at latitude 53° 35' north and longitude 113° 30' west, it is the most northerly Canadian city of its size.¹⁰ The long-term average temperature is 36.9°F. The long-term mean maximum temperature is 46.8°F.; for the months April to September—65.1°F. and for the months October to March—28.5°F. The mean minimum temperature is 29.6°F. Other climatic factors are: normal hours of sunshine 2,213; normal mean wind speed 8.9 m.p.h. The winters are moderated from time to time by the influence of the chinooks.

Pretested forms were used for collecting data. Most of the data were gathered by two undergraduate students from the Faculty of Dentistry, University of Alberta. A preliminary letter was mailed to prospective homes (from a list obtained from friends, acquaintances, Sunday school lists and neighbours of the authors and students) explaining the purpose and method of the study, outlining the responsibility of the child and parent, and soliciting the participation of the returns children were selected at children 10 years of age and under. From random, assigning alternately a boy and a girl to each of the six age groups—under 1; 1 and 2; 3 and 4; 5 and 6; 7 and 8; 9 and 10 years of age—for each of the recording periods. Occasionally fewer than 12 children were put in a group.

The recording period for each child was five days, Monday to Friday inclusive, and each child participated only once. Recordings were carried out every other week for the period July 1961 to May 1962.

The mean maximum temperature for the total recording period was 43.66°F. with a range of 10.1-81.6°F. The mean maximum temperature for June 1962 was 69.4°F. The mean maximum temperature for the period October to March was 25.63°F. with a range of 12.1-49.6°F.; for the period of April to September 64.46°F. with a range of 51.0-78.2°F.

A recorder visited each home to explain the study in detail and review the recording form and instruction sheet which were then left with the parent. The child was weighed by the recorder and the weight entered on the recording form. The parent (and child) were asked to keep a careful record of all fluid intake at home or elsewhere — all amounts to be measured and to be recorded in fluid ounces. For this purpose 10 plastic thermal cups, scaled, tested and pre-marked clearly on the inside in fluid ounces 1 to 6, were provided for each child. The school age child was requested to take a cup with him to school or elsewhere during the period. For recording purposes fluids were divided into 11 categories as follows:

1. Drinking water as such - (a) at home and (b) elsewhere.
2. Tap water added to baby formula.
3. Juices made with tap water.
4. Soups made with tap water.
5. Tea.
6. Other tap water constituted beverages, home-made drinks, sweet or effervescent beverages, coffee.
7. Bottled carbonated drinks.
8. Juices, whole or canned (not made or diluted with tap water).
9. Whole milk (a) as such and (b) in foods.
10. Reconstituted milk (a) as such and (b) with other foods.
11. Miscellaneous — any fluid not indicated in the previous categories.

Water used for cooking vegetables and meat was not included, but a proportionate amount of tap water used in jellies and puddings was to be included.

Any history of chronic disease was recorded. Children suffering from an acute fever during the recording period were excluded.

A record of "normal" home temperature in degrees Fahrenheit during the

TABLE 1 Distribution of total number of participants by age and weight.

Age	Number	Mean weight lbs.	S.E.
Under 1	27	17.15	0.72
1 - 2	27	27.00	0.62
3 - 4	31	36.64	0.78
5 - 6	36	45.97	1.12
7 - 8	37	55.86	1.10
9 - 10	31	72.29	2.21
Total	189	43.87	

TABLE 2 Distribution of participants by age and weight according to recording periods (October - March and April - September, excluding June).

Age	October - March		April - September (excluding June)	
	Number	Mean weight lbs.	Number	Mean weight lbs.
Under 1	13	16.70	14	17.54
1 - 2	12	28.08	15	26.13
3 - 4	15	36.27	16	37.00
5 - 6	24	45.48	12	46.96
7 - 8	22	55.30	15	56.70
9 - 10	19	70.79	12	74.67
Total	105		84	

recording period was obtained, as well as information about the type of fuel and heating utilized. School temperatures were not obtained individually, but the suggested winter temperature for classrooms in Edmonton is 68-72°F.¹¹

The recorder telephoned or returned on the second or third day to check on progress and answer any questions. Following the recording period the recording forms were reviewed with the parent and collected by the recorders.

RESULTS

Data from both sexes are combined because, as in Galagan's study, there is no appreciable difference in fluid intake in terms of ounces per pound of body weight.

Distribution of the total number of

TABLE 3 Distribution of total fluid intake for all participants for the whole recording period, by age groups, in ounces per day per child.

Age	Tap water consumed							8 Whole juices	9 Whole milk as such in foods		10 Reconstituted milk as such in foods		11 Misc.	12 Total				
	1 Tap water drunk		2 Tap water added to baby formula	3 Juices made with tap water	4 Soup made with tap water	5 Tea	6 Other tap water beverages, coffee, etc.								7 Bottled carbonated drinks			
	(a) Home	(b) Other																
Under 1	1.13	0.03	4.86	0.67	0.04		0.16					2.12	17.31	1.24	3.71	0.23	0.61	32.11
S.E.	0.50	0.02	1.34	0.34	0.04		0.12					0.55	0.82	0.48	1.70	0.15	0.53	
1 - 2	3.72	0.10		1.09	0.74	0.10	0.79	0.42				1.97	10.67	1.16	2.46	0.23	0.78	24.23
S.E.	0.60	0.06		0.31	0.22	0.10	0.28	0.18				0.47	1.57	0.30	0.84	0.12	0.35	
3 - 4	6.29	0.26		1.84	0.96	0.23	1.04	0.53				1.36	11.03	1.50	3.34	0.46	0.24	29.08
S.E.	0.92	0.11		0.48	0.19	0.23	0.49	0.14				0.34	1.23	0.48	1.15	0.16	0.10	
5 - 6	6.71	1.25		2.00	1.07	0.47	0.40	0.43				1.60	10.08	0.97	5.32	0.44	0.43	31.18
S.E.	0.81	0.30		0.43	0.16	0.23	0.21	0.15				0.38	1.17	0.21	1.37	0.14	0.15	
7 - 8	8.16	2.29		1.95	1.37	0.26	0.55	1.60				1.25	10.41	0.88	5.68	0.81	0.41	35.61
S.E.	0.79	0.53		0.44	0.26	0.21	0.21	0.30				0.22	1.25	0.25	1.43	0.25	0.18	
9 - 10	12.74	4.27		2.47	1.89	0.25	0.89	1.24				1.71	11.38	0.89	4.39	1.18	0.37	43.67
S.E.	1.67	0.86		0.66	0.33	0.15	0.33	0.47				0.38	1.51	0.25	1.52	0.45	0.12	

TABLE 4 Proportion of intake of total fluid by age groups for the complete recording period.

Age	Tap water consumed							8 Whole juices	9 Whole milk		10 Reconstituted milk		11 Misc.	12 Total	
	1 Tap water drunk		2 Tap water added to infant formula	3 Juices made with tap water	4 Soup made with tap water	5 Tea	6 Other tap water beverages, coffee, etc.		7 Bottled carbonated drinks	(a) (b) as such in foods		(a) (b) as such in foods			
	(a) Home	(b) Other													
Under 1	.035	.001	0.151	.021	.001	0	.005	0	.066	.539	.039	.116	.007	.019	1.000
1 - 2	.154	.004	0	.045	.030	.004	.033	.017	.081	.440	.048	.102	.010	.032	1.000
3 - 4	.216	.009	0	.063	.033	.008	.036	.018	.047	.379	.052	.115	.016	.008	1.000
5 - 6	.215	.040	0	.064	.034	.015	.013	.014	.051	.323	.031	.171	.014	.014	.999
7 - 8	.234	.066	0	.056	.039	.007	.016	.046	.036	.299	.025	.163	.023	.012	1.020
9 - 10	.292	.098	0	.056	.043	.006	.020	.028	.039	.260	.020	.100	.027	.008	.997

TABLE 6 Distribution of fluid intake into tap water and other fluids for the whole recording period in ounces per day per pound of body weight.

Fluid intake	Age groups						Mean
	under 1	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10	
Tap water	.618	.333	.381	.375	.362	.360	0.405
Other	1.254	.564	.413	.303	.276	.247	0.510
Total	1.872	.897	.794	.678	.638	.607	0.915

maximum temperatures for all the recording periods is shown in Figure 1.

The average “home” temperature for all of the recording periods was 71.94°F. with a range of 65-81°F. Natural gas constitutes about 97 per cent of the heating fuel consumed in the homes of the participants. Hot air heating was used in about 95 per cent of the homes in the study.

All climatological data were obtained from the Edmonton office of the Dominion Public Weather Office, Meteorological Branch, Department of Transport, Canada.

DISCUSSION

Children in the study were selected at random from a list of families living in middle to higher income areas of the city. This factor is not likely to influence total fluid intake, but it may affect the proportion of liquids consumed—for example, reconstituted milk.

The data for boys and girls are combined as their fluid intakes in ounces per day per pound of body weight are very similar. The mean weights for all subjects and by age groups, as shown in

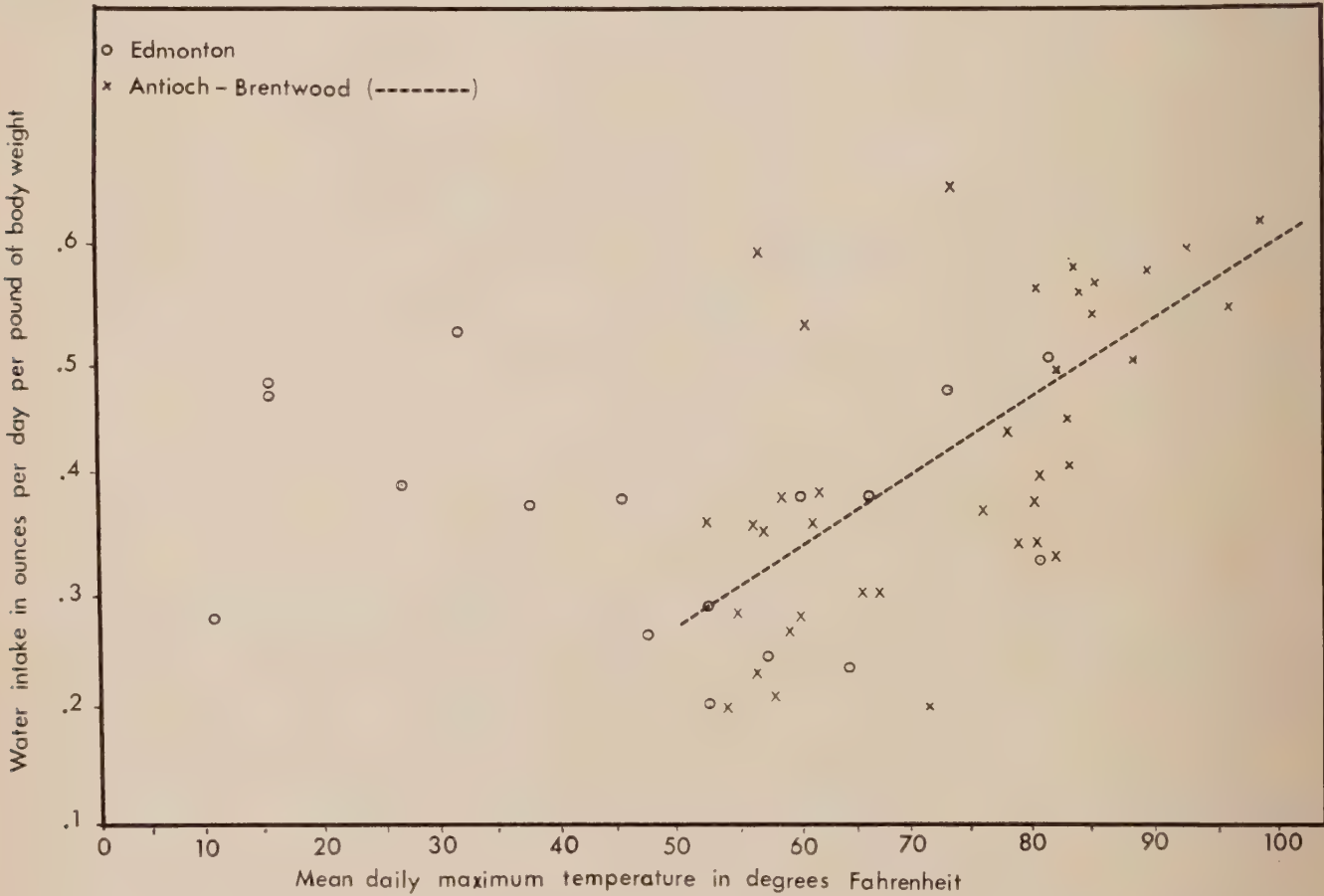


FIGURE 1 Relationship of daily maximum temperature and tap water intake for the recording periods, Edmonton children 0-10 years of age, and a comparison with the Galagan-Vermillion Antioch-Brentwood study (broken line).

Table 1, are comparable to those in the Antioch-Brentwood study; and are comparable for the October-March and April-September groups as shown in Table 2.

Tap water, as such, consumed away from home is negligible in the zero to 4 year age groups (Table 4), but increases with age to 15 per cent of the total tap water consumed for the 9-10 year age groups.

In the under one year age group tap water added to baby formula and in reconstituted milk constitutes 81 per cent of the total tap water, but tap water accounts for only 27 per cent of total fluid intake.

Total reconstituted milk forms 14.7 per cent of total fluid intake for all groups, ranging from 11.2 per cent for the 1-2 year age group to 18.6 per cent for the 7-8 year age group (Table 4).

Percentage distribution of all fluids consumed (derived from Table 4) is shown in Table 12 (with the Antioch-Brentwood averages for comparison).

The percentage of tap water consumed as such is lower in Edmonton (22.7) than in the Antioch-Brentwood study (35.0), but it appears to be supplemented by the tap water based reconstituted milk (14.3) consumption in Edmonton.

The mean total water (all tap water and tap water based fluids) consumption in ounces per day per pound of body weight is less than one ounce for all age groups (Table 6). Water intake in ounces per day per pound of body weight tends to be highest in the under one year age group (.618) and to decrease with succeeding age groups (.381, .375, .362 and .360). However, Table 8 shows that the actual water and total fluid consumption in ounces per day per child does not follow this pattern. The mean consumption of whole (fluid) milk is slightly less than one pint (imperial measure) per day per child in the under one year age group, and is only slightly more than one-half pint (imperial measure) for the other age groups. The use of reconstituted milk, and the possible wide variation in its use (in economic and geographic groups) should be assessed from time to time.

TABLE 7 Proportion of intake of total tap water by age groups for all participants during the whole recording period.

Age	Tap water consumed							11 Total						
	1 Tap water drunk		2 Tap water added to baby formula	3 Juices made with tap water	4 Soup made with tap water	5 Tea	6 Other tap water beverages, coffee, etc.		7 Bottled carbonated drinks	8 Whole juices	9 Whole milk		10 Reconstituted milk	
	(a) Home	(b) Other									(a) as such	(b) in foods		
Under 1	.107	.003	.460	.063	.004	0	.015					.351	1.003	
1 - 2	.413	.011	0	.121	.082	.011	.088					.273	.999	
3 - 4	.451	.019	0	.132	.069	.016	.074					.239	1.000	
5 - 6	.390	.073	0	.116	.062	.027	.023					.309	1.000	
7 - 8	.403	.113	0	.096	.068	.013	.027					.280	1.000	
9 - 10	.474	.159	0	.092	.070	.009	.033					.163	1.000	

TABLE 8 Comparison, in ounces per day per child and as a percentage figure, of tap water intake to total fluid intake.

Fluid intake	Age					
	under 1	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
Tap water	10.60	9.00	13.96	17.22	20.25	26.90
Total fluid	32.11	24.23	29.08	31.18	35.61	43.67
% tap water	33.01	37.14	48.00	55.23	56.87	61.60

TABLE 9 Comparison, in ounces per day per child and as a percentage figure, of whole milk to reconstituted milk intake and of total milk to total fluid intake.

Milk intake	Age					
	under 1	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
Whole milk	18.55	11.83	12.53	11.05	11.29	12.27
Reconstituted milk	3.94	2.69	3.80	5.76	6.48	5.57
Total milk	22.49	14.52	16.33	16.81	17.77	17.84
% whole milk of milk total	82.48	81.47	76.73	65.73	63.53	68.78
% total milk of total fluid	68.13	59.92	56.16	53.91	49.90	40.64

TABLE 10 Tap water and total fluid consumption in ounces per day per pound of body weight, by age groups, for the period October - March and April - September (excluding June).

Age	N	Mean weight	Tap water consumption	Total fluid consumption	% tap water of total fluid
October - March*					
Under 1	13	16.70	0.6536	1.9126	34.18
1 - 2	12	28.08	0.4053	0.8589	47.20
3 - 4	15	36.27	0.4395	0.8188	53.24
5 - 6	24	45.48	0.4109	0.6811	60.33
7 - 8	22	55.30	0.3686	0.6242	59.06
9 - 10	19	70.79	0.3239	0.5852	55.33
Mean			0.4336	0.9135	51.56
April - September (excluding June)†					
Under 1	14	17.54	0.5929	1.8477	32.09
1 - 2	15	26.13	0.2717	0.9317	29.16
3 - 4	16	37.00	0.3309	0.7713	42.90
5 - 6	12	46.96	0.3051	0.6730	45.34
7 - 8	15	56.70	0.3536	0.6221	56.84
9 - 10	12	74.67	0.4188	0.6405	65.40
Mean			0.3788	0.9144	45.29

*Mean maximum temperature: 25.63°F, with a monthly range of 12.1 - 49.6°F.
†Mean maximum temperature: 64.46°F, with a monthly range of 51.0 - 78.2°F.

Total milk (fluid and reconstituted) consumption is slightly more than one pint in the under one year age group; and about three-quarters of a pint in other age groups.

Table 10 reveals that tap water consumption tends to be slightly higher in the colder months than in the warmer months, but the means show no significant difference.

TABLE 11 Relationship of tap water intake to mean maximum temperature for each recording period, Edmonton children 0 to 10 years of age.

Mean maximum temp. F.°	Oz. water per day per lb. body wt.	Mean maximum temp. F.°	Oz. water per day per lb. body wt.
10.0	.276	52.8	.200
14.8	.475	57.8	.244
14.9	.480	60.4	.384
26.4	.395	64.6	.237
31.5	.528	66.2	.386
37.0	.376	73.0	.476
45.0	.382	80.6	.327
47.6	.261	81.6	.505
52.6	.289		

Mean maximum temperature: October - March 25.63°F.; April - September 64.46°F.

TABLE 12 Percentage distribution of all fluids consumed: Edmonton and Antioch-Brentwood studies.

Fluid	Edmonton	Antioch-Brentwood ¹
Tap water		
(a) as such (Cat. 1 a & b) 22.7	50.3	45.5
(b) in reconstituted milk (Cat. 10) 14.3		
(c) other tap water based fluids 13.3 (Cat. 2, 3, 4, 5 & 6)		
Whole (fluid) milk (Cat. 9 a & b)	40.9	43.9
Bottled carbonated drinks (Cat. 7)	2.0	3.3
Miscellaneous (whole juices, etc.) (Cat. 8 & 11)	6.8	7.3
Total	100.0	100.0

Graphic relationships between water consumption and climatic temperature are similar for Edmonton (data derived from Table 11) and Antioch-Brentwood down to about 50°F. (Figure 1). (But the Edmonton intake tends to rise again below the immediate temperature range of 50°F.) In the colder (winter) months, the effect of climatic temperature on fluid intake may be altered by the artificial environmental temperatures of the home, school and indoors generally, and perhaps, to a degree, by the heavy warm winter clothing worn by children in this area. Although the relative humidity remains fairly high (mean annual R.H. 71 per cent, ranging from 57 in May to 82 in December and January), the actual humidity is quite low in the colder months (based on mixing ratios of 7 and 9 for January and December respectively as compared to the high of 61 for July).

SUMMARY

Fluid intake for Edmonton children 10 years of age and less, under normal living conditions, has been estimated by direct measurement and related to climatic temperatures. Edmonton has a long-term mean maximum temperature of 46.8°F. Data regarding the relationship of water consumption (in ounces per day per pound of body weight) to climatic temperature support the findings of Galagan and Vermillion in the Antioch-Brentwood study for the range 82.3 to about 50°F. Below about 50°F. the line relating water consumption to climatic temperatures for the Edmonton area rises indicating the increase in water consumption. The data suggest that the effect of climatic temperature on water intake at about 50°F. may be altered by the influence of the artificial environmental

temperature created by heating of the home, school and indoors generally, and perhaps, to a degree, by the warm winter clothing worn by children in this area.

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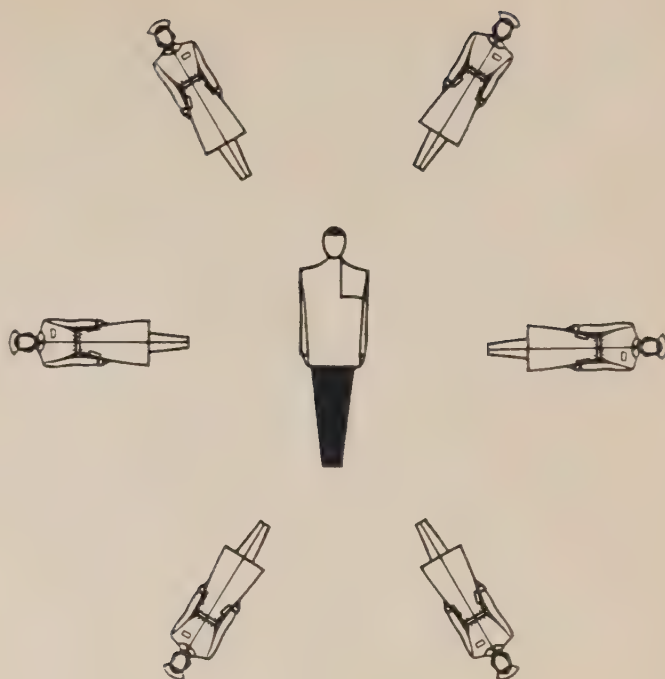
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University of Alberta

Are you going to the C.D.A. National Convention in Quebec this May? If so, don't miss seeing these old French style houses on rue St-Denis.



An important factor in the economics of dental practice:



Choosing a dental assistant

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When seeking a new dental assistant, first advertise in local newspapers using a box number, then use a local employment office to screen possible candidates from among those who answer the advertisement, and finally interview those who seem worthy of consideration. At the interview discuss salary, holidays, sick leave and sick pay, overtime work, life insurance, health and accident insurance, professional membership fees and uniforms. Combine a test of the applicant's typing ability with a questionnaire designed to elicit her attitudes toward dental health. An office procedure manual is a valuable guide to the new assistant and a useful source of reference for the more experienced assistant.

Pour embaucher une nouvelle assistante, il faut d'abord insérer une petite annonce dans le journal, en se servant comme adresse d'un numéro de casier; ensuite utiliser les services d'une agence locale d'emploi pour choisir les meilleures candidates parmi celles qui répondent à l'annonce; enfin interviewer celles qui semblent faire l'affaire. Au cours de l'entrevue, il faut discuter question salaire, congés, absences pour maladie et salaire payé durant ce temps, temps supplémentaire, assurance-vie et assurance accident-maladie, cotisation professionnelle et uniformes. Faire subir un test au point de vue dactylographie et faire répondre à un questionnaire pour connaître l'attitude en face de l'hygiène dentaire. Un manuel sur la procédure du cabinet constitue un guide précieux pour une nouvelle assistante et une source de références utile pour une assistante ayant de l'expérience.

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Each dentist has his own ideas about how he wants to conduct his practice. He must fit his work patterns to his personality and physical capacity. There are, however, certain fundamentals in practice management which can be applied to any practice to increase efficiency. As the practice develops changes and improvements become necessary so that the dentist may serve a maximum number of patients in a minimum amount of time and still maintain high standards. By so doing he will fulfil the role expected of him in his community.

Dental practice offers excellent financial returns almost in spite of how one practises. But practising efficiently by using auxiliaries to their full potential invariably results in higher income with less effort. Thus dental practice becomes more enjoyable.

Unfortunately, only three formal full-time courses in dental assisting are presently offered in Canada. These courses are conducted in technical schools in Vancouver, Edmonton and Toronto. From these schools will come 46 potential graduates in 1964. Thirty-one of these will come from Edmonton. Because of the small numbers of graduates, most Canadian dentists will still have to train their own dental assistants for many years to come. Even the dentist who is fortunate enough to engage a trained assistant would be well advised to interview her properly. Despite formal training or previous experience all assistants require some additional training to meet the requirements of the individual dentist.

IMPORTANCE OF A DENTAL ASSISTANT

Dental assistants enable the dentist to serve more patients. A survey of dental practices by the American Dental Association revealed that a dentist with one auxiliary treats 37 per cent more patients than a solo practitioner, and a dentist with two auxiliaries treats 69 per cent more patients than a solo practitioner.¹ It is practically impossible to give excellent, or even mediocre service without a chairside assistant.

A capable and personable assistant enhances public relations. As a receptionist she usually mirrors the dentist's office,

practice and professional stature. A competent assistant relieves him of all possible non-professional duties, especially scheduling of appointments. And she assists at dental operations.² Most dentists obtain the most modern equipment when they establish a practice, but delay the employment of an assistant until they can afford one, or until the demand for treatment warrants it. It might be much wiser to start by hiring an assistant and by purchasing a minimum of modern equipment. The expense of the assistant is justified for several reasons. First, there is usually plenty of spare time at this stage of the dentist's professional career. This can be used to teach an assistant the things she will need to know, whereas there may not be enough time to train her later. Second, an assistant is a good contact for introducing new patients. Third, an office with a receptionist creates a good impression, especially on those patients who evaluate a new dentist in terms of maturity and evidence of success. And lastly, a third party in the office is valuable in case of medico-legal problems.

BASIC REQUISITES IN A DENTAL ASSISTANT

The requirements of a good dental assistant are:² positive attitude about the importance of good dental health, good general health, well groomed appearance, enthusiasm, initiative, loyalty, adaptability, happy disposition, diplomacy, sympathy with patients' and co-workers' problems, good secretarial and stenographic ability, and some degree of manual dexterity.

INTERVIEWING AND HIRING A NEW ASSISTANT

No one can consistently select the right person for a particular position. Even a trained personnel manager may err. However, if certain precautions are taken in interviewing applicants, it is possible to reduce the chances of making the wrong selection. The following procedure is helpful:

Place an advertisement in the newspaper asking for hand-written application

giving age, marital status, experience, references, and any other particulars that may be required. Use a box number to avoid embarrassing personal contacts, and to eliminate undesirable applicants on the basis of the written application. Up to one-half of the applicants may be eliminated immediately because of poorly organized applications, bad composition and grammar, poor taste (replies written on perfumed, coloured paper) and illegible handwriting.

Use the facilities of a local employment office to screen the remainder of the applicants. Some employment offices give intelligence, aptitude, clerical perception and finger dexterity tests and report the results to the employer.

Telephone those applicants who seem worthy of consideration, taking note of the sound and quality of the applicant's voice on the telephone. Listen particularly to enunciation, grammar and manners.

INTERVIEW

Make it clear that if the applicant is accepted, she and her employer are on trial for at least two weeks. The interview should cover hours of work, salary, holidays, illness, overtime, insurance, attendance at professional meetings, uniforms, dental care for the assistant, and an outline of her duties.

Salary.—Point out that the first three to six months is a training period. State a starting salary, and outline the conditions governing increases. These depend on aptitude, interest and progress. To compete successfully with employers in other fields, a dentist must offer comparable or better financial terms.³

Holidays.—Mann and Easlick recommend vacation entitlement at the rate of one day per month of employment (or 12 days a year).¹ This increases to three weeks' holidays after five years.

Sick Leave and Sick Pay.—A reasonable and common arrangement offers entitlement at a rate of one half day per month. If the employee is not sick during the year she qualifies for six extra days of holiday with pay.

Overtime Work.—The problem of overtime work should be discussed and a satis-

factory and definite agreement made. Some dentists allow extra time off for overtime worked; others pay for overtime.³

Life Insurance or Annuity.—Decide in advance whether these fringe benefits should be paid entirely by the dentist during the period of employment or whether the cost should be shared with the assistant.

Health and Accident Insurance.—This may be paid entirely by the dentist, or the cost may be shared. Some insurance companies offer coverage for employees in conjunction with the dentist's policy.

Membership Fees and Expenses for Attending Professional Meetings.—These may be paid in accordance with the assistant's value to the office. The decision should be the dentist's.

Uniforms.—An agreement should be made regarding who is to pay for uniforms initially and who is to be responsible for laundering costs.

Dental Treatment for Assistants.—A definite policy should be established at the outset of employment.

RECORDING THE INTERVIEW

It is helpful to record the general impression gained during an interview. Specific items to be noted are:

1. Telephone personality.
2. Speech, voice, and so forth.
3. Appearance, hair, complexion, teeth, finger-nails, make-up and dress.
4. Age—those over the age 30 generally tend to stay with a practice longer.
5. Marital status—many married women are excellent employees, but complications, such as conflict with husband's hours, responsibilities to children, and pregnancy, may intrude. Most young single women will marry, but many wish to continue working after marriage. Neither selective age group nor marital status offers any solution to the problem of employee turnover.

Part of the interview is designed to acquaint the dentist with the applicant's typing ability and appreciation of dental health. She is given a sheet of questions and requested to type the answers. The

following format is suggested for this questionnaire:

QUESTIONNAIRE

Type brief answers to the following questions in your own words:

1. Why do you want to be a dental assistant?
2. What are the duties of a dental assistant?
3. What is your personal feeling about dental treatment for yourself?
4. When did you last visit a dentist?
5. Who is your dentist?
6. Would you be willing to submit to a cursory dental examination as a part of this interview?
7. When should a child pay his first visit to a dentist? Why?
8. What do you think causes dental decay?
9. What would you suggest as a good preventive dental health program for a child?

Other methods of interviewing may be employed. The Wonderlic Personnel Test (available from E. F. Wonderlic, P.O. Box 7, Northfield, Illinois, U.S.A.) is widely used and can be very helpful as an adjunct to the above suggestions. If a second assistant is being sought, the one already employed may be able to take care of the interview.

OFFICE MANUAL

The dentist must define the duties he wishes an auxiliary to perform and he must specify how these duties are to be carried out. It is wise to prepare an office manual in which all procedures are outlined in detail. A new assistant can refer to this manual for information. The manual will change and increase in size and scope as new ideas and techniques develop. The manual should include information on office management procedures, such as daily desk duties, telephone procedure, admission of new patients, questions for emergencies, charting, banking, bookkeeping, filing, form letters, list of

supplies (alphabetical, giving location of each item), opening and closing the office and cleaning operating rooms. The manual should also describe routine clinical duties, such as mixing of filling materials, sterilization, instrument set-ups for various types of treatment, routines for special operations (endodontic, orthodontic, operative procedures), handpiece and instrument care, and changing x-ray processing solutions.

A new, inexperienced assistant can easily refer to the office manual instead of having to ask questions repeatedly. With the manual open on her desk, she can say the right things on the telephone by reading the text until routine conversations related to dental problems become more familiar to her. Chairside routines are more easily taught than other office duties since the chairside assistant comes under the direct supervision of the dentist. Nevertheless, her duties should also be described in the office manual.

There are excellent reference books available for dental assistants.^{2,7-12} These should be provided by the dentist to supplement personal instruction and should be kept in the office library.

ASSISTANT'S DUTIES

Duties that an assistant should learn to perform include appointment control; receiving patients; telephone supervision; arranging methods of payment; collection of fees; sending statements; keeping financial records; banking; payment of bills; correspondence; processing and mounting of radiographs; pouring and trimming models; additional simple laboratory duties, depending on ability and time available; cleaning and sterilizing instruments; cleaning and lubricating of handpieces and units; housekeeping duties; and chairside assisting, including the handling and mixing of all dental materials.

Because the responsibilities of the dental assistant are complex and varied, I firmly believe that her education should not be the sole responsibility of the practising dentist. Sharing this responsibility with the public education system, as in Alberta, British Columbia and Ontario,

might well be extended to other Canadian provinces.

SUMMARY

Utilization of a competent dental assistant contributes to efficient dental practice. Prospective assistants must be properly interviewed and carefully selected. Several methods of interviewing and selecting a dental assistant are described. Training of the assistant is facilitated by an office manual which outlines in detail all procedures and techniques used in the office. Provision by the public education system of basic training facilities would result in more uniformly trained assistants who can aid dentists in rendering a higher quality of service and an increased amount of treatment for the public.

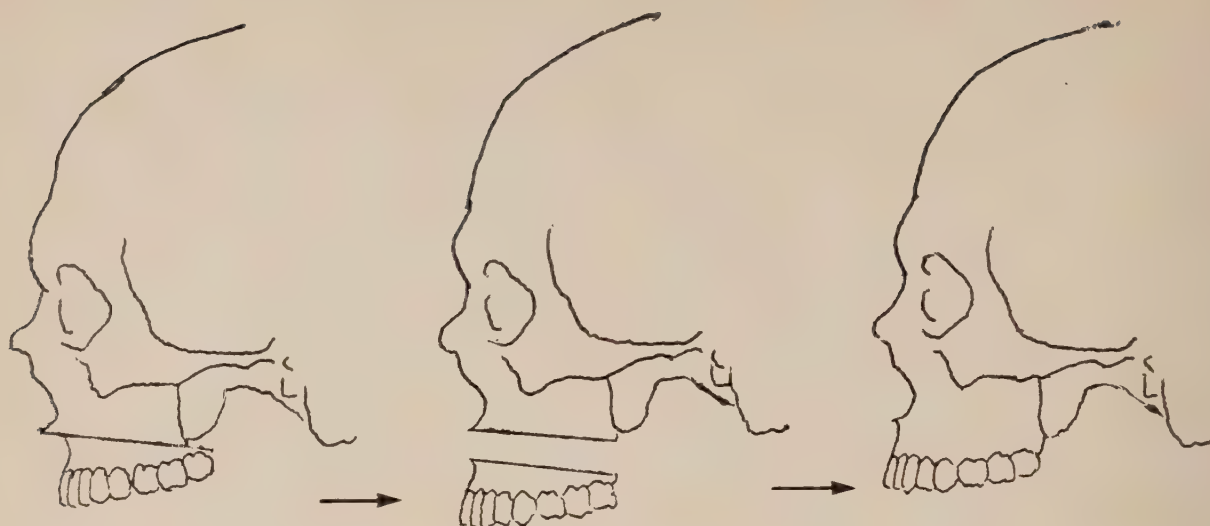
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Are you going to the C.D.A. National Convention in Quebec this May? If so, you may wish to visit the Basilica of Notre-Dame dating back to 1647. During the siege of Quebec in 1759 it burned and was demolished, leaving but the walls and tower. It burned again in 1922 — this time much of its art treasures were lost — but the original walls still stand. There also remain famous paintings and silver vessels from the French regime. In its crypt repose its consecrator Monseigneur de Laval and former French governor Frontenac.





Surgical treatment of long-standing malunited horizontal fracture of the maxilla

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A case report of surgical treatment of a long-standing malunited horizontal fracture of the maxilla is described. Treatment was effected by performing an osteotomy which surgically recreated, as closely as possible, the original fracture line. A brief discussion of the classification and treatment of horizontal maxillary fractures follows.

■

Il s'agit d'un rapport de cas au sujet d'une vieille fracture horizontale mal consolidée au maxillaire supérieur. Le traitement a consisté en une ostéectomie pour recréer aussi parfaitement que possible la ligne de fracture originale. Il y a, à la fin de l'article, un exposé sur la classification et le traitement des fractures horizontales du maxillaire.

Fracture of the facial bones is not generally regarded as an acute surgical emergency. Treatment may consequently be postponed, particularly in hospitals without personnel trained in the management of facial injuries. As a result

such victims of facial injury are left with long-standing post-traumatic structural deformities.

Facial deformity imposes very definite social and economic handicaps. These victims are therefore entitled to an attempt at surgical reconstruction.

FIGURE 1 (Right) Pre-operative occlusion showing pseudopognathic appearance, the result of posterior displacement of the maxilla.

FIGURE 2 (Middle right) Pre-operative profile view showing the maxillary re-trusion.

FIGURE 3 (Bottom right) Pre-operative full face view. The lower lip appears prominent.



The following report describes surgical treatment of a long-standing, malunited, horizontal, maxillary fracture.

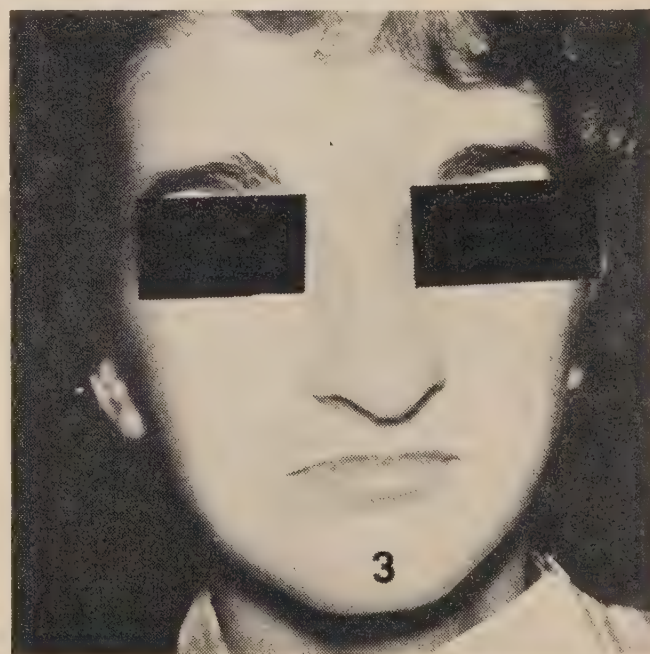
History and Examination. — The patient, a 25-year-old white woman, was first seen by us in the Oral Surgery Department of The Doctors Hospital, Toronto, on August 26, 1963. Her chief complaint related to her unusual facial appearance. She had been involved in an automobile accident six months previously. At the time she was taken to a local hospital where a diagnosis of horizontal fracture of the maxilla was made and treatment of this fracture was attempted.

The patient was not satisfied with her resultant appearance. She consulted her physician who referred her to our service for consultation.

She was a thin, pale young woman with apparent mandibular prognathism (Figures 1-3). There was a severe malocclusion. The maxilla was so displaced that the maxillary incisors of her partial upper denture were $1\frac{3}{4}$ cm. lingual to the mandibular incisors (Figure 3). She had only four natural teeth in the maxilla. All natural mandibular teeth, with the exception of two molars, were present.

Radiographic examination of the facial bones did not reveal any abnormalities apart from the posterior displacement of the maxilla and wire fixation of the left infra-orbital rim.

We decided to perform a maxillary osteotomy in order to restore normal



anatomical relationship between the maxilla and the skull.

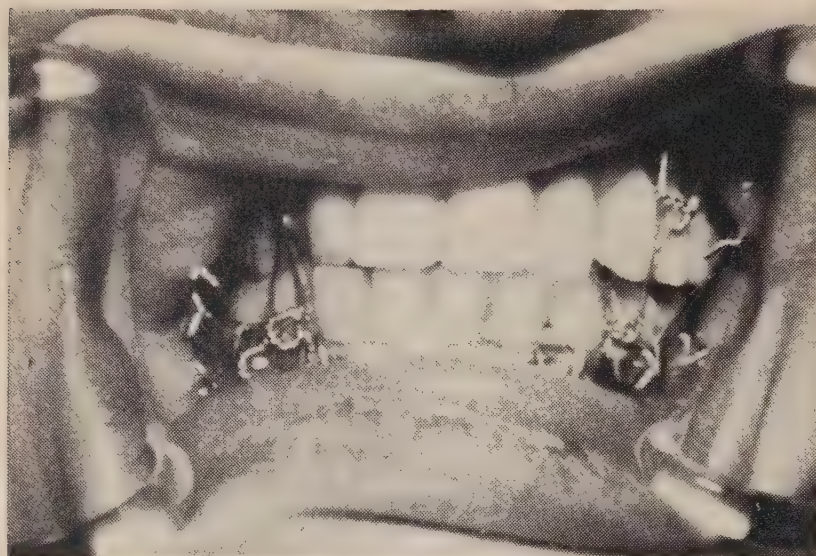


FIGURE 4 (Left) Postoperative occlusion. The maxilla has been sectioned and brought forward. The mandibular Erich arch as well as the intermaxillary wires are in place.

FIGURE 5 (Below left) Postoperative full face view.



Surgical Procedure. — The patient was prepared and draped in the usual fashion. Oral-endotracheal anaesthesia was used. An incision was made bilaterally on the crest of the alveolar ridge from one tuberosity to the other, extending along the crest of the ridge in edentulous regions and around the labial gingival margins of any teeth present. The mucoperiosteum was elevated upward until the floor of the nasal fossa was identified. The dissection was then extended posteriorly along the floor of the nose and the lower part of the septum on both sides exposing the floor and lateral wall of the nose and lower part of the septum. Although in most cases the original fracture site cannot be identified, we were able to visualize a portion of the

horizontal fracture line in the left anterior maxilla only. A horizontal groove about 3-4 mm. in depth was cut at the level of the floor of the nose, parallel to the alveolar crest of the maxilla, from one tuberosity region to the other with a No. 703 carbide fissure bur in the hand-piece of a Jordan-Day drill. A thin osteotome was then placed just above the anterior maxillary nasal spine and was driven along this groove to the posterior nasal spine. The osteotome was used in like manner all along the horizontal groove and was carried backward to the posterior wall of the antra. The plane of refracture thus created is parallel to the alveolar process and on a level with the nasal floor. In order to preserve the pterygoid musculature, the separation in that area was accomplished by a combination of prying and driving the osteotome through the pterygo-maxillary junction. It is not usually possible to obtain completely free motion of the refractured bone due to fibrous adhesions in areas not reached by the osteotome.

Once the osteotomy was completed, the mucoperiosteal flap was reapposed and sutured. The partial upper denture was inserted and fixed to the maxilla by two circumferential stainless steel wires. Cranio-maxillary fixation was achieved by circumzygomatic wiring to a Risdon arch on the mandibular teeth placed the day prior to surgery. Maxillo-mandibular fixation was then effected through stainless steel intermaxillary wires. These wires passed through three holes in the upper partial denture and then around

the mandibular Risdon arch. The wire traction was exerted in an antero-inferior direction in order to achieve the desired anatomical relationship.

The patient was discharged from hospital on the sixth postoperative day. The final result was most satisfactory (Figures 4 and 5).

DISCUSSION

Maxillary fracture components become fixed quite early and retain their position, but bony union occurs later than in fracture of the mandible. Horizontal maxillary fractures are classified in three groups according to their surgical management: one-month old; one- to four-month old; and several months old fractures.

One-Month Old Fractures.—Three- or four-week old fractures can be reduced by traction even if digital manipulation fails to produce any movement. The simplest type of appliance that will produce the desired result and that is relatively comfortable should be used for this purpose. An Erich arch bar or Risdon arch may be attached to the buccal surfaces of the teeth with 24 gauge stainless steel wire. This bar may be connected by elastic traction to a coat-hanger wire suspended from a plaster head cap. Strong elastic traction will usually establish normal anatomical relations in a few hours or in a day or two at the most. To correct discrepancies in occlusal and vertical relationship it is necessary to use intermaxillary elastic traction followed in a few days by wire fixation.

One- to Four-Month Old Fractures.—Traction may also correct a four- to six-week old horizontal fracture—dislocation. In some cases with firm soft tissue union that will not submit to traction a rapid satisfactory reduction may be accomplished by mechanical refracture using the impression tray technique. A perforated maxillary dental impression tray is selected to fit over the upper teeth and alveolar ridges. Dental compound is softened in warm water and distributed

evenly throughout the tray. The tray with the softened compound is then forced up over the teeth to the sulcus in a fashion similar to taking a dental impression. The tray is irrigated with cool water to accelerate hardening of the compound. The water is removed by aspiration. With the patient's head firmly held, the handle of the tray is grasped and moved firmly from side to side and up and down in order to rupture fibrous tissue attachments at the fracture sites. The tooth bearing component of the maxilla will frequently loosen by this method.

If greater force is needed for refracture, a piece of wood about one inch square and six inches long is placed against the anterior part of the tray over the alveolar process, and struck a firm blow with a heavy mallet. A few blows on the front and side of the impression tray will loosen the fragment. In effect, this recreates the force that produced the original horizontal fracture. No damage is caused because the impact is distributed to all tissues in contact with the compound in the tray. The tray and compound can be removed by warming with water and chipping the compound away from the teeth. The patient is then treated as if he sustained a fresh fracture.

Several Months Old Fractures.—These cases require an osteotomy as described in the preceding case report.

SUMMARY

A case report of surgical treatment of a long-standing malunited horizontal fracture of the maxilla is described. Treatment was effected by performing an osteotomy which surgically recreated, as closely as possible, the original fracture line. A brief discussion of the classification and treatment of horizontal maxillary fractures follows.

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Le passé, le présent et l'avenir de la faculté de chirurgie dentaire de l'Université de Montréal

par Jean-Paul Lussier, D.D.S., Ph.D., Montréal, P. Qué.*

J'exprimerai tout d'abord mes remerciements les plus vifs à Monsieur le Ministre de nous faire l'honneur de sa présence et de nous apporter le message de l'autorité gouvernementale de notre province, à nos invités d'honneur représentants de l'autorité universitaire, des disciplines académiques et des professions-sœurs, à vous, diplômés de récentes ou de moins récente date, à mes collaborateurs immédiats, les grands responsables de l'organisation et du succès de cette splendide et mémorable journée, à vous mesdames de vous joindre à nos réjouissances confraternelles. Nous vous sommes grandement reconnaissants d'avoir accepté notre invitation.

Plusieurs se sont déjà posé la question: "Qu'y-a-t-il de particulier à cet anniversaire pour qu'on le célèbre avec pompe et allégresse?" La question est pertinente. La réponse tentera de l'être. Comme premier actif, la Faculté cherchait un prétexte à une réunion de famille. Notre Faculté éprouve le besoin, même sans qu'on l'ait délaissée, de revoir périodiquement ses fils intellectuels. Il lui arrive souvent de les revoir individuellement ou en petits groupes. Aujourd'hui elle les voulait tous du même coup, comme s'il lui fallait compter sa nichée. Votre réponse est à l'égal de son désir. Elle vous témoigne toute sa reconnaissance.

Comme second motif à la célébration du 60e anniversaire de notre Faculté, il y a la nécessité de vérifier le travail ac-

compli devant la profession réunie et de lui faire part des projets d'avenir. 60 ans c'est presque la mesure de l'existence des individus. Pour une institution comme la nôtre, cela peut coïncider avec la fin d'une étape ou un changement de palier. Cela devient surtout l'occasion de considérer l'étendue de l'œuvre et l'acheminement de son influence.

RÉTROSPECTIVES

De fait, les 60 années qui se terminent constituent un bloc de temps qui se pose d'une façon exceptionnelle sur l'histoire de notre profession. Au moment de la fondation de l'Ecole dentaire de Montréal, en 1904, on en était à l'époque des émerveillements que procurait l'usage de la vulcanite, des dents de céramique et du tour à pied. L'empirisme et le mercantilisme entachaient nos activités professionnelles.

En ce début du siècle, la dentisterie venait de prendre forme légalement et administrativement, mais ces progrès n'avaient pas encore débordé dans la direction de l'enseignement. Une impulsion nouvelle lui sera fournie à la suite du coup direct porté par le pathologiste anglais, William Hunter, en 1910, quand il dénoncera les tendances des praticiens d'alors. Ici même à Montréal, dans l'amphithéâtre de la Faculté de médecine à l'Université McGill, il développe le thème de l'infection focale et démontre le danger de construire, selon son expression, "des mausolées d'or sur des masses septiques comparables à aucune autre

Allocution prononcée au cours de la célébration du 60e anniversaire de la Faculté de chirurgie dentaire de l'Université de Montréal, le 24 octobre 1964.

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condition dans toute la médecine et la chirurgie.”¹ Ce n’était pas tellement la condamnation des méthodes en usage, comme celle des maîtres et des praticiens qui faisaient abstraction des principes les plus fondamentaux de la biologie dans l’enseignement et la pratique de l’art dentaire.

Un autre événement viendra modifier l’évolution de la profession. Comme Flexner l’avait déjà fait pour les écoles de médecine d’Amérique, Gies étudie les conditions selon lesquelles l’enseignement se fait dans les écoles de chirurgie dentaire du Canada et des Etats-Unis et remet son volumineux rapport en 1926. Sa conclusion générale s’exprime ainsi et je cite: “Amener l’art dentaire à l’équivalent d’une spécialité buccale de la pratique de la médecine demanderait une nouvelle et plus complète définition de la dentisterie, un élargissement correspondant du domaine des sciences de la santé dentaire et une amélioration appréciable de l’enseignement dentaire. Agrandie dans sa signification biologique et renforcée dans toutes ses ramifications avec la santé, la dentisterie, alors une profession savante, s’occuperait d’établir les principes et de trouver les applications sous toutes leurs formes et à tous les degrés d’un service scientifique de santé en rapport direct avec les dents et les parties de la bouche et en rapport indirect avec le bien-être de toutes les autres parties de l’organisme.”^{1,2}

Cette déclaration confirmait donc dans leur orientation les institutions d’enseignement qui s’étaient rapprochées des disciplines scientifiques et invitait celles qui ne l’avaient pas fait déjà à donner le coup de barre. La profession a dû réinstituer, sur des données mieux contrôlées, toutes ses méthodes et réviser leurs applications afin de mieux se préparer à la pratique d’une dentisterie de plus en plus identifiable à la médecine buccale. Cette conception a permis d’élargir le spectre des soins préventifs, curatifs et restauratifs et d’y incorporer le fruit des découvertes modernes à un rythme toujours plus rapide. Le meilleur exemple qu’on puisse apporter est celui de la fluoruration des eaux de consommation. Par des études bien menées et des contrôles bien établis, n’a-t-on pas prouvé, entre 1940 et 1950,

que l’on possédait enfin le moyen rêvé de prévenir la carie dentaire. Encouragée de ce résultat, notre profession va faire des appels plus pressants aux chercheurs scientifiques, aux institutions qui les logent et aux organismes qui les subventionnent. C’est ainsi qu’aux Etats-Unis, les sommes affectées aux recherches dentaires passeront de \$200,000 à \$4,000,000, entre 1950 et 1960, et au Canada, de \$30,000 à \$200,000 pour la même période.

Vous m’avez entendu dire délibérément la profession. J’insiste à dire que c’est le fait de la profession dentaire par ses associations de caractère national, provincial ou autre, par ses facultés, par tout ce qui existe de solidaire entre les membres de la profession quels que soient les secteurs où ils œuvrent. Mais j’insiste aussi sur la présence des universités et sur les bienfaits que les écoles dentaires ont retiré de leur étroite association avec elles. Entraînées par l’exemple des facultés de culture et des facultés professionnelles comprises depuis longtemps dans le giron des universités, les facultés dentaires sont à leur tour devenues des institutions de recherche et d’enseignement de haut savoir et n’ont cessé de croître en excellence depuis. Voilà le résultat d’une heureuse conjonction entre la confiance d’une profession à l’endroit des universités et l’empressement des universités à s’acquitter d’un devoir onéreux. Dans l’espace de deux générations, la chirurgie dentaire aura pu accéder au rang de discipline universitaire. Ceci implique que les facultés dentaires ne sont plus des écoles où se fait simplement la transmission des connaissances d’un groupe à l’autre, mais des foyers d’éclosion de connaissances constamment en effervescence.

NOTRE FACULTÉ ET SON ÉVOLUTION

Où se situe dans cette évolution générale le cas plus particulier de notre Faculté? Se distingue-t-elle dans le tableau d’ensemble des écoles d’Amérique par des traits et des tons qui lui sont personnels? Disons que pendant les premières années de son existence, elle aurait pu s’identifier comme une école de conception française. Les étroites relations que maintenaient le docteur Eudore Dubeau,

doyen fondateur, et les professeurs d'alors avec leurs collègues de France et la disponibilité d'ouvrages dentaires écrits en français, rendaient le commerce plus simple et plus accueillant avec nos confrères de même ascendance. Rattachée à une université de caractère français, l'Ecole dentaire de Montréal était nettement de caractère français. Et pourtant déjà, le voisinage des écoles de langue anglaise du Canada et d'Amérique lui offraient de se mesurer à des standards différents et d'adopter la formule américaine. Le rapport Gies contient cette remarque: "La position prise par les Canadiens est d'une grande signification. En dépit de leur familiarité avec le système en cours en Europe et leur liberté de l'adopter, ils lui préfèrent le système nord-américain."² Cette orientation sera profitable au prestige de notre Faculté. Ceci nous vaudra d'attirer des étudiants des autres provinces, notamment de l'Ontario et des Maritimes, comme des états limitrophes des Etats-Unis. Nous avons le bonheur de compter parmi nous ce soir des diplômés de ces régions. Je les salue particulièrement. C'est avec une émotion difficilement contenue que l'Université rend hommage à votre filial attachement.

Notre Faculté évoluera dorénavant dans le contexte des facultés nord-américaines. Après la visite des délégués de l'Institut Carnegie, ce fut celle de tous les groupes qui ont enquêté sur les conditions d'enseignement au Canada et aux Etats-Unis, — Association dentaire canadienne, Association dentaire américaine, New York State Board of Education. A chaque fois, la Faculté a retrouvé son nom dans le haut du palmarès.

Faculté constituante de l'Université de Montréal depuis 1920, notre Faculté sera marquée par tous les événements heureux ou malheureux que le sort réserve à notre grande institution. Il y a des périodes de prospérité, alternant avec des périodes de détresse économique. Mais arrive la seconde guerre mondiale: les forces armées requièrent des dentistes en quantité. On presse les jeunes, l'inscription s'en ressent.

C'est l'occasion d'un nouveau dynamisme. Cette fois ce sera le docteur Charron qui se mesurera au défi et placera notre Faculté en vedette. Avec le

flair et l'habileté qu'on lui connaît, il réorganise la Faculté au complet, s'engage dans des programmes accélérés et, en quelques mois, redonne à la Faculté son ardeur et son enthousiasme des beaux jours. La Fondation Kellogg, impressionnée par le potentiel de la Faculté et la détermination de son doyen, concourt généreusement à toutes nos initiatives. Tantôt c'est la formation du personnel académique, tantôt c'est un vaste programme d'éducation continue qui se met en branle. Les professionnels les plus réputés des Etats-Unis et du Canada sont sur la liste de nos conférenciers et la Faculté inscrit des étudiants de tous les coins du Canada et des Etats-Unis.

A la même époque le docteur Paul Geoffrion faisait école dans sa clinique d'orthodontie. Je souligne que, depuis 20 ans, ce département n'a cessé de progresser et de se faire remarquer par l'excellence de son programme. Ce département a formé des spécialistes en accord avec les standards les plus rigoureux. Etablis aux quatre coins du monde, les orthodontistes diplômés d'ici font honneur à leur maître et contribuent largement à affirmer le prestige de l'Université de Montréal en dehors de notre province. Avant de verser dans le narcissisme, arrêtons-nous ici.

PROBLÈMES ET PROJETS

Ce rapide tour d'horizon nous ramène à la situation actuelle. Les 60 ans passés se sont échelonnés sur la première période dite empirique de la profession, la seconde dite scientifique et nous place au début d'une troisième période qu'on qualifiera mieux dans quelques années. Disons pour le moment que cette dernière sera aussi différente de la deuxième, que la deuxième l'a été de la première. A l'orée de cette nouvelle période, en 1964-65, en quelle position se trouve la Faculté de chirurgie dentaire de l'Université de Montréal? La Faculté groupe 218 élèves inscrits au cours régulier du doctorat, dont 70 en première année (inscription record pour une première année dans toute l'histoire de la Faculté); 13 élèves inscrits au diplôme et à la maîtrise en orthodontie; 26 professeurs plein-temps et demi-temps, dont sept affectés à l'enseignement des

sciences fondamentales; 38 cliniciens et assistants cliniciens viennent prêter main forte dans l'enseignement des services cliniques. Elle occupe une surface de 48,000 pieds carrés distribués en cliniques, laboratoires d'enseignement, laboratoires de recherches, bibliothèque, salles de cours et services auxiliaires.

Dans leur sens absolu, ces chiffres ne veulent rien dire. C'est en relation avec le rendement attendu qu'il faut les analyser. Qu'est-ce qu'ils signifient? Que nous sommes au maximum de rendement de ce personnel et de ces espaces et que, devant la tâche qui se dessine, il a de quoi se sentir inquiet. Notre inquiétude vient de ce que nous sommes au seuil d'une orientation nouvelle qui nous excite à l'audace alors que nos moyens et nos réserves nous excuseraient d'être hésitants. Il nous faut plus de profondeur, plus de locaux, plus de moyens matériels et ceci au plus tôt, car nous voulons faire face à notre obligation de former plus de dentistes et aussi devant la nécessité de les former différemment. Permettez que je développe cet énoncé.

La disproportion qui existe entre les soins à rendre et les effectifs disponibles est assez frappante pour qu'on se passe de longs commentaires. On sait qu'un dentiste qui rend des soins complets à 1,000 patients, par an, fait de l'héroïsme et pourtant il y a dans la province un dentiste par 3,600 de population. Même si nous n'envisageons pas de combler l'écart uniquement en formant plus de dentistes, il faut définitivement en augmenter le nombre. La Faculté étudie les possibilités d'augmenter son rendement à 90 diplômés par an et ceci au plus tôt, c'est-à-dire vers 1972. En prenant 70 élèves cette année déjà, nous anticipons d'une année notre projet d'expansion. Augmenter le nombre de dentistes, sans augmenter parallèlement les auxiliaires qui les secondent, c'est travailler à faux dès le début.

La tâche de former un personnel auxiliaire va donc nous incomber, au moins partiellement, mais je ne suis pas de ceux qui croient que l'Université doit se charger de former *tout* le personnel auxiliaire professionnel et technique. Le personnel auxiliaire qui exerce ou va exercer des fonctions, qui jusqu'à présent étaient en propre celles du dentiste lui-même, doit

être formé dans le complexe des professions de la santé. Qu'il s'agisse d'hygiénistes dentaires ou d'autres auxiliaires d'un type analogue, la Faculté, si elle obtient le consentement de l'Université, pourra rendre au public et à la profession le service d'en former à leur satisfaction. Pour ce qui est des autres types d'auxiliaires, comme les assistantes et les techniciens, on ne devra attendre de la part de la Faculté qu'une collaboration indirecte, surtout de nature consultative. A elle seule, la tâche de grossir les rangs en dentistes et en auxiliaires qualifiées est suffisante pour épuiser toutes nos ressources.

Et pourtant il y a plus à faire encore — il faut former différemment nos futurs dentistes et, pour y arriver, modifier le curriculum en conséquence. Nombreuses déjà sont les transformations qui ont été apportées dans le curriculum et plusieurs sont loin d'être négligeables. N'ayez crainte je n'en ferai pas l'énumération. Nous sommes invités à faire rapidement des transformations par deux organismes qui ont travaillé dans des pays différents et avec des mandats différents: l'American Council on Education aux Etats-Unis et la Commission Hall au Canada. Leurs rapports nous ont mis en face d'un état de choses qui ne peut plus se perpétuer. Pour montrer la quantité de services à rendre, on nous sert l'exemple suivant: 250,000 dentistes travaillant pendant 10 ans suffiraient à peine à fournir les soins que la population des Etats-Unis nécessitait en 1960. Or aux Etats-Unis, cette année-là, il n'y avait pas encore 100,000 dentistes. La situation au Canada est encore pire. Ceci nous force donc à redéfinir les objectifs de la profession en fonction des années à venir. Les éducateurs prennent part à cette révision et doivent retailer le curriculum dentaire en vue de ces nouveaux objectifs. Cependant, quelle que soit l'orientation définitive de l'aiguille indicatrice, nous savons déjà qu'elle oscille dans la zone de la prévention. *La dentisterie de la fin du XXe siècle sera d'abord préventive ou ne sera plus.* Autant s'en convaincre tout de suite. Il faudra, au profit de ce nouvel accent, faire des concessions sur des pratiques qui nous étaient chères, mais qui sont irréconciliables avec un programme orienté d'emblée vers la mise en pratique des mesures préventives.

D'ailleurs l'éthique la plus élémentaire nous le commande.

Les éducateurs sentent bien qu'ils sont au carrefour de deux courants d'idées qui s'affrontent violemment. D'une part, il y a les membres de la profession qui s'agrippent en status quo et revendiquent la sauvegarde de la qualité des traitements avec intransigeance. L'autre courant est véhiculé par des porte-parole en dehors de la profession. Ils réclament une poussée à fond de train en vue de répondre aux besoins de la masse.

Ils veulent que l'Etat, en contribuant davantage, s'assure des résultats qui favorisent la totalité de la population. Quand on sait ce qu'il en coûte pour former des dentistes, il n'est pas étonnant que le public s'agite. Il y a 40 ans, le coût de l'enseignement dentaire était de \$400 par étudiant par an, l'étudiant assumant la moitié des frais. Aujourd'hui, il en coûte près de \$3,500 par étudiant, par an, alors que l'étudiant contribue à peine 25 pour cent. L'Université prend à sa charge le 75 pour cent à même ses fonds généraux. Le Bureau fédéral de la statistique publiait, l'an dernier, que, dans les universités du Canada, l'enseignement le plus onéreux financièrement était celui de la chirurgie dentaire, tant pour les universités que pour les étudiants.

Je ne veux pas faire d'esquisse prématurée. Je me contenterai de vous assurer que nous arriverons à faire quelque chose d'harmonieux et d'utile si les facultés dentaires sont pourvues des structures essentielles et si on les établit dans un équilibre dynamique. Ce n'est pas tout de maintenir un programme qui assure tant de diplômés par année en vue de servir comme dentistes de famille. Il faut maintenir en pleine activité des programmes d'études supérieures, soit dans les spécialités de la profession, soit dans les disciplines fondamentales où la profession puise constamment ses connaissances. Reprenons la démonstration à l'inverse. La recherche scientifique ne peut se poursuivre qu'avec des maîtres et des élèves. Ces maîtres sont les professeurs d'universités, leurs élèves, de futurs chercheurs, de futurs maîtres. Si cette équipe est forte au niveau des études supérieures, elle prend une influence considérable qui dé-

teint sur l'enseignement des niveaux sous-jacents et l'émulation créée par la recherche se propage à toutes les zones. Mais la recherche, c'est tout; elle est l'élément qui fortifie toute l'équipe de l'enseignement, elle est aussi le pourvoyeur de moyens qui rendent le praticien plus apte à protéger et à soulager le public.

Où peut se faire la recherche dentaire ailleurs que dans les facultés dentaires? Par qui peut se faire la recherche dentaire, si ce n'est par le personnel des facultés?

Vous comprenez maintenant que le rôle d'une faculté dentaire ne peut plus se définir en termes de production de praticiens. N'ayez crainte que l'accent sur la recherche mène à trop idéaliser l'enseignement et rende le praticien inapte à ses fonctions envers le public. Faites-nous confiance. C'est une tâche ardue que de prendre un groupe de jeunes gens au stage profane des choses de la profession et de l'amener après 4,000 heures d'enseignement à un degré d'excellence tel qu'il peut affronter ses pleines responsabilités à l'égard d'un public hétérogène. Le nombre d'heures également accordé à tous les élèves peut engendrer des résultats variables. Mais il existe un élément compensateur qui vient niveller les légères différences de compétence et établir chaque individu à la place qu'il doit occuper en face du public. C'est la conscience professionnelle. Parmi les fonctions d'une faculté dentaire, il n'en est pas de plus grande que d'instiller chez ses diplômés le sens du devoir professionnel. C'est celle-là en tout cas que notre Faculté juge la plus noble et la plus réconfortante. Offrir à la population des professionnels consciencieux qui lui assurent avec dévotion les soins les meilleurs, c'est l'objectif que la Faculté s'est fixé depuis 60 ans. C'est encore celui qu'elle va maintenir dans les années à venir.

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L'Association dentaire canadienne

par Paul-Emile Poitras, D.D.S., Montréal, P. Qué.

Au mois de septembre 1902, plus de deux cent chirurgiens dentistes canadiens assistaient au congrès biennal. Réunis à Montréal, à l'Université McGill, ils étaient les hôtes des docteurs F. A. Stevenson, C. F. Morrison, Eudore Dubeau, de Montréal, et des docteurs Albert E. Webster et J. Branston Willmott, de Toronto.

Le programme comprenait, entre autres choses, l'étude de l'histoire de la chirurgie dentaire, dont les progrès et l'aspect scientifique remontaient à l'antiquité. Ce riche héritage aurait été estimé à sa juste valeur, si une meilleure compréhension de nos ancêtres avaient accru les connaissances du monde. Déjà connu d'un petit nombre, l'axiome suivant était présenté au congrès: "Celui qui est disposé à ignorer l'histoire se prépare à la répéter."

La profession était d'avis qu'une association nationale était nécessaire, qu'elle pourrait améliorer la chirurgie dentaire en prônant l'importance de la santé publique et en combattant les monopoles, les procédés déloyaux, abusifs et malhonnêtes des distributeurs de fournitures dentaires. Un des objectifs de cette association nationale serait de lutter contre les annonces trompeuses et d'en faire connaître la nature frauduleuse.

(La publicité devrait toujours s'appuyer sur la vérité; elle est fausse, quand, à la suite d'un exposé de certains symptômes, elle laisse croire que des maladies incurables guérissent en absorbant des

panacées vendues chez des pharmaciens ou chez des épiciers. Autant que je sache, aucun organisme ne se préoccupe de vérifier la véracité de ces réclames intempestives. Vraies, elles ont l'avantage de faire savoir que des remèdes utiles seraient ignorés à moins qu'ils soient exposés à la vue des chalands).

Les chirurgiens-dentistes réunis en congrès pour jeter les bases d'une société nationale ne s'illusionnaient par sur le travail nécessaire pour mener à bien cette œuvre considérable. Il fallait, dans un pays aussi vaste et aussi peu peuplé que le Canada, prêcher d'abord l'union et l'harmonie et rédiger ensuite une constitution telle qu'elle satisfasse l'est, le centre et l'ouest.

Les médecins, à la fin du XX^e siècle, commençaient à s'intéresser à la chimie et à la physique. Ils ne considéraient les dents de leurs patients que comme des organes destinés à transformer, à l'aide de la salive, la nourriture en bol alimentaire, avant sa descente dans l'oesophage. On était d'accord pour penser que l'étude et la diffusion des notions de pathologie renforceraient l'éthique des professions libérales. On croyait avec raison que la profession dentaire jouirait d'une meilleure estime, si on établissait clairement une démarcation entre le vrai mérite et l'habileté et si on mettait un terme au bagout des charlatans.

L'Association dentaire canadienne ne

fut jamais libre dans le vrai sens du mot; elle existe grâce à un contrat passé entre elle et les collèges des provinces, qui soldent ses dépenses; le budget est équilibré grâce aux cotisations payées par les dentistes licenciés du pays.

La constitution et les règlements de l'American Dental Association furent d'abord servilement copiés par l'association canadienne; ils furent fréquemment amendés par la suite. Les règlements de l'A.D.A. rendaient service aux dentistes des Etats-Unis d'Amérique, sans convenir aux dentistes canadiens.

Le docteur J. H. Johnson, il y a quelques mois, écrivait: "There is no room for schism or destructive division in dentistry. There are only six thousand of us in Canada and we all are dedicated to the single purpose of serving humanity. Schism thrives best in the darkness of misunderstanding, misinformation and the lack of information. Fortunately, it withers quickly in the light of free and open discussion and exercise of democratic franchise."¹

Dès 1889, dès la parution de la revue dentaire, *Dominion Dental Journal*, son éditeur et un de ses rédacteurs, le docteur G. W. Beers, soulignait la nécessité d'une société nationale. Enfin, en 1902, après bien des pourparlers, l'A.D.C. était fondée à l'occasion d'un congrès. On établissait du même coup le Dominion Dental Council, pour uniformiser, par tout le pays, l'enseignement des sciences dentaires et échanger des licenciés d'une province à l'autre. Le Dominion Dental Council est disparu, plus tard, pour faire place au Bureau national d'examen dentaire.

Certains confrères mêlent les lois et règlements des organismes locaux, provinciaux et nationaux; ils font l'impossible pour sauvegarder leur réputation scientifique. Ils assistent à des congrès, ils lisent les revues, ils suivent les débats des sociétés, ils se rendent compte des recherches, ils veulent être au courant des découvertes pour les diffuser aux moins favorisés. Les objectifs de ces confrères sont louables, mais obtiennent-ils les ré-

sultats qu'ils se proposent? Il faut en douter.

Au début du XXe siècle, les médecins et les dentistes ne se souciaient guère d'améliorer le rendement de leur profession. Cette indifférence se basait sur l'absence de publicité reçue dans les quotidiens par les sociétés médicales et les sociétés dentaires. C'est pourquoi, il est difficile aujourd'hui de reconstituer leur fondation: il faut se contenter de généralités.

Le chirurgien dentiste, selon le cas, soulage rapidement le tourment d'une dent cariée, soit par une extraction, soit par un pansement. La douleur physique existe depuis toujours; c'est pourquoi une profession a comme fonction, en des conditions favorables, de soulager une grande souffrance et, si possible, d'en guérir la cause par un palliatif. Les humains ont cherché de tout temps des drogues capables de calmer les douleurs physiques aiguës: le mandragore, le chanvre indien ou le hachisch, l'opium, etc. Ces substances sont des narcotiques utilisés par les patients avant Jésus-Christ, au Moyen-Age et au cours des siècles suivants. L'anesthésie (1844), l'analgésie (1854) et les Rayons-X (1895) ont relégué ces calmants aux oubliettes. Le médecin, homme respectable et éduqué, ne se serait jamais abaissé à se servir de médicaments aussi dégradants. Peu importe que la chirurgie ait été laissée aux barbiers trop heureux d'être en possession de remèdes palliatifs pour que les opérés puissent mieux endurer l'incision du bistouri. L'apothicaire et le barbier, artisans reconnus, demeuraient au service des médecins; ceux-là prescrivaient des potions que fournissaient les apothicaires; ces ordonnances de saignées et d'interventions chirurgicales étaient exécutées par les chirurgiens barbiers.

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2043 St-Denis

Substances anormales non calcifiées

formées par l'épithélium dentaire

par Zdenek Mész,* D.D.S., M.D., Montréal, P.Qué.

*Il y a parfois des formations particulières dans les fissures, puits et canalicules de l'émail, dans les amé-
lomes, invaginations et odontomes.
Ces amas sont situés entre l'épithé-
lium et l'émail, souvent en conti-
nuité avec l'émail et le tissu amé-
loïde, et semblent être formés par
l'épithélium dentaire. Ils se dis-
tinguent de l'émail et du tissu
améloïde par leur forme et leur
structure et par le fait qu'ils ne
sont pas calcifiés. Examinés par
des méthodes variées, ils paraîs-
sent être de nature kératineuse.*

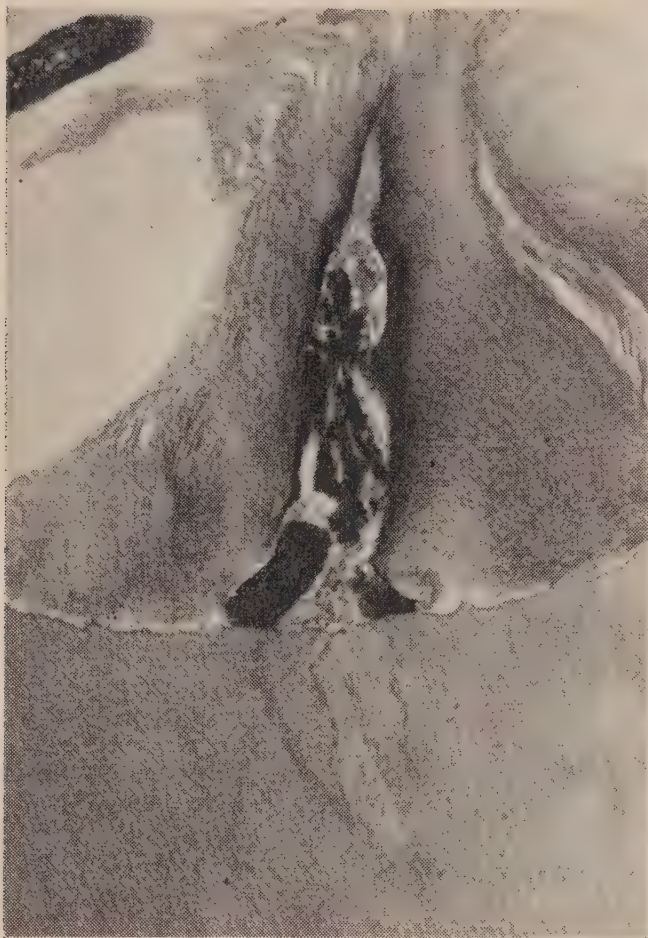
*Abnormal formations sometimes
exist in fissures, pits and tubules of
apparently normal enamel, as well
as in enamelomas, invaginations and
odontomas. These formations are
situated between the epithelium of
the enamel, often in continuity with
enamel and enameloid tissue, and
they seem to be formed by the dental
epithelium. They differ from enamel
and enameloid tissue by their form
and structure and because they do
not calcify. They appear to be kera-
tinous in nature.*

L'épithélium qui forme l'émail peut aussi, au cours de circonstances particulières, former diverses anomalies. Par exemple, un processus trop abondant donne des amé-
lomes, des invaginations, des odon-
tomes; un processus déficient produit des hypoplasies; une lacune de calcifica-
tion engendre des hypocalcifications de l'émail; un trouble qualitatif durant le stade actif de l'épithélium, donne des tissus de structure anormale: le tissu améloïde^{1,2,3} est un tissu calcifié constitué de globules améloïdes ou lamelles améloïdes.

Le rapport décrit les substances non calcifiées qui se trouvent au-dessous ou dans l'épithélium dentaire, en continuité ou en relation évidente avec l'émail ou le tissu améloïde.

Des histologistes, depuis longtemps, ont observé la présence de substances anor-
males d'origine épithéliale, sans en faire une classification, ni en faire l'objet d'études particulières. On trouve dans la littérature, habituellement groupés sous un même titre, les substances non calci-
fiées et le tissu améloïde calcifié; ces structures sont habituellement décrites comme cellules épithéliales dégénérées ou matrice hyperplasique de l'émail ou sous des termes semblables.

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▲ FIGURE 1



▲ FIGURE 2

FIGURE 3 ▼



FIGURE 4 ▼

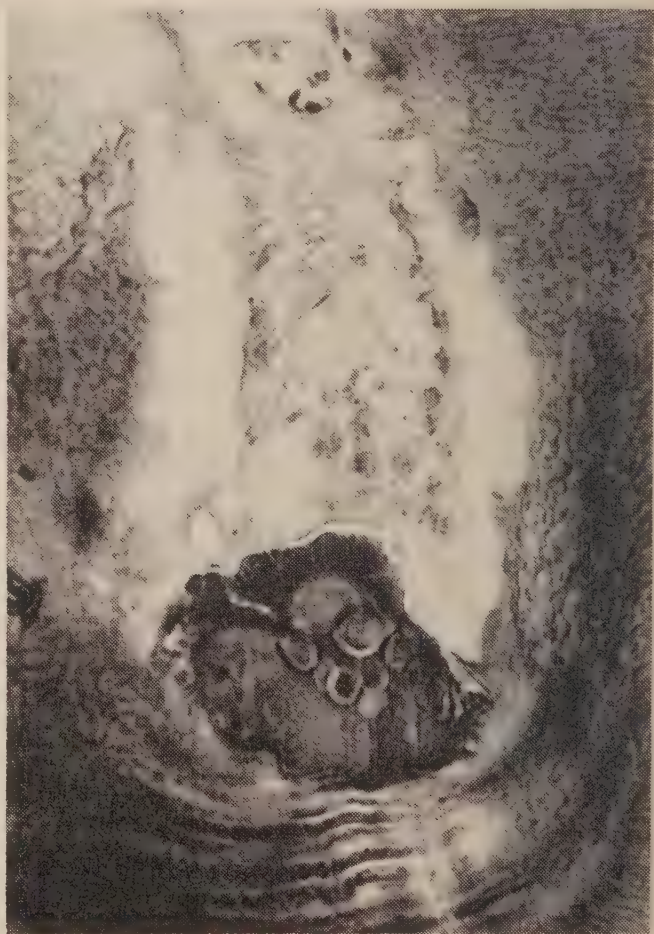


FIGURE 5 Au fond d'un canalicule, on note une transition graduelle entre l'émail, les globules améloïdes, les lamelles améloïdes et les formations non calcifiées, foncées, en forme de globules. Hématoxyline-éosine, grossissement original x 400.



LITTÉRATURE

Diamond et Weinmann⁴ décrivent des substances anormales sur la surface de l'émail d'un fœtus; Hodson^{5,6} note des masses pathologiques dans les canalicules de l'émail; Kalnins,⁷ rapporte des substances anormales chez les animaux; Fleming⁸ mentionne des dépôts particuliers après avoir fait des transplantations de germes dentaires; Oehlers⁹ utilise une terminologie précise pour décrire le tissu améloïde des tumeurs.

sité de Montréal, des substances anormales d'origine épithéliale dans des centaines de dents. Souvent la quantité de substance est infime et la dent adulte ne montre plus les rapports de la substance anormale avec l'épithélium dentaire.

FIGURE 6 L'extrémité cervicale de l'émail est remplacée par une formation non calcifiée. Hématoxyline-éosine, grossissement original x 400.



MATÉRIEL ET MÉTHODES DE TRAVAIL

On a trouvé, au cours de l'examen de routine fait dans les laboratoires de la Faculté de chirurgie dentaire de l'Univer-

FIGURE 1 Un canalicule dans l'émail atteint la dentine et contient des formations non calcifiées, foncées, de forme irrégulière. Hématoxyline-éosine, grossissement original x 160.

FIGURE 2 Une autre coupe du même canalicule; au fond, la substance étudiée donne une réaction positive au test au ferricyanure ferrique et se colore en bleu foncé. Grossissement original x 160.

FIGURE 3 Une autre coupe du même cas. La coloration de Martinotti montre dans la substance anormale au fond d'un canalicule des zones rouges, violettes et bleues. Grossissement original x 400.

FIGURE 4 Entre l'épithélium et l'émail, au fond d'un canalicule, se trouve une masse irrégulière foncée, composée de plusieurs granules. Hématoxyline-éosine, grossissement original x 400.



FIGURE 7 Une formation homogène sur la surface d'un amélome superficiel composé de l'émail avec des prismes. Hématoxyline-éosine, grossissement original x 400.

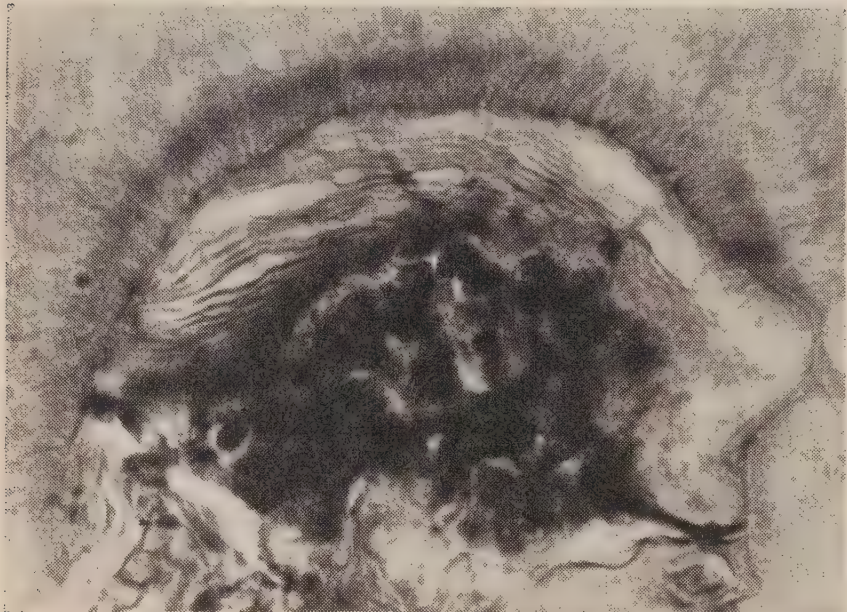


FIGURE 8 Des granules irréguliers, foncés s'étendent vers l'intérieur d'un amélome superficiel composé de lamelles améloïdes. Hématoxyline - éosine, grossissement original x 400.



Trente cas montraient des caractéristiques intéressantes et ces cas servent de base à cette observation. Ces cas étaient surtout de jeunes dents incluses dont le développement n'était pas encore terminé et où l'épithélium était encore présent, des dents surnuméraires, irrégulières, des anomalies dentaires variées, des amélomes, des odontomes.

Ces examens de routine consistaient en la décalcification des dents et à leur inclusion dans la celloïdine ou la paraffine; les dents étaient coupées en série; les coupes choisies colorées à l'hématoxyline-éosine ou à l'hémalum-phloxine-safran. Les autres coupes de la série des cas choisis ont été alternativement colorées par les méthodes suivantes:

Bleu alcian-chlorantine fast red (AB-CR) de Lison.¹⁰ Ces colorants colorent les fibres collagènes, la dentine, l'os, le ciment en rouge et l'émail en bleu verdâtre;

FIGURE 9 Des formations irrégulières composées de granules et des fibres se trouvent à l'intérieur d'un amélome partiellement inclus dans la dentine et composé de lamelles améloïdes. Hématoxyline-éosine, grossissement original x 400.

les contrastes entre les différents tissus dentaires sont évidents.

Permanganate — bleu alcian avec acide acétique (PABA) et permanganate—bleu alcian avec acide sulphurique (PABS) de Prunieras.¹¹ L'oxydation par le permanganate et l'abaissement du pH améliorent la spécificité du bleu alcian. Certaines kératines, négatives sans oxydation, se colorent en bleu verdâtre très foncé après oxydation.

Le test au ferricyanure ferrique, procédé de Chèvremont et Frédéric,¹² repose sur la réduction du ferricyanure, incolore, en ferrocyanure ferrique, bleu de Prusse, par l'action du radical sulfhydryle SH. Les kératines contiennent des groupes SH et SS et elles se colorent en bleu.

Le test au chlorure de néotétrazolium, procédé de Barnett et Seligman,¹³ met en évidence les groupes sulfhydriques et disulfides en couleur violette—rouge ou violette—brune.

L'orange G — méthyléosine — Wasserblau de Martinotti^{14,15} montre bien les différents degrés de kératinisation: kératine, bleu; éléidine, jaune doré, orange; substance de transition, rouge, kératohyaline, violet. La coloration à la fuchsine acide — alun de Eros¹⁵ — colore les tissus calcifiés, même après la décalcification, en rouge vif; les autres tissus sont pâles ou blancs.

D'autres méthodes (P.A.S, imprégnation à l'argent, Von Kossa, etc.) ont été employées moins régulièrement. Quelques cas ont été étudiés à l'aide des coupes par usure et examinées en lumière polarisée.

RÉSULTATS

Localisation, quantité, forme.—1. Les amas anormaux dans l'émail qui semble normal en clinique se trouvent surtout dans les fissures, les puits et les canalicules¹⁶ (Figures 1-5). La quantité varie de quelques gouttelettes au fond d'une fissure, visibles avec le grossissement fort, jusqu'aux masses remplissant une partie considérable d'un canalicule, par exemple, et facilement décelables dans les coupes avec le grossissement faible, parfois même à l'œil nu.

On trouve tantôt des formations arrondies, tantôt irrégulières et bizarres; tantôt

des formations nombreuses, petites et homogènes, tantôt de gros dépôts, apparemment composés de petits granules (Figure 4). Parfois, la masse dense et foncée semble être composée des fibres (Figure 3).

Les formations sont situées surtout entre l'épithélium et l'émail (ce qu'on peut constater sur les dents qui n'ont pas fait leur éruption). Parfois, elles semblent être en continuité avec la trame organique de l'émail. Il est intéressant d'étudier les cas, où les substances anormales sont déposées entre et au-dessus des globules améloïdes, au fond d'un canalicule dans l'émail (Figure 5). On peut trouver aussi des masses anormales non calcifiées en contact avec la dentine dans des canalicules ou fissures profondes (Figures 1-3). Dans le tissu mou, dans une fissure, en contact avec les cellules épithéliales de la couche externe ou avec un amélome libre, on peut trouver parfois des formations du même caractère.

Des formations anormales non calcifiées sur la surface de l'émail normal sont décrites dans le livre de Diamond et Weinmann.⁴ Nous les avons trouvées aussi sur le collet des dents, là où la formation de l'émail normal se termine. L'extrémité cervicale de l'émail était remplacée par une formation non calcifiée (Figure 6).

2. Dans les hypoplasies de l'émail, où il y a des défauts profonds, et dans les dysplasies traumatiques, où il y a des canalicules pathologiques dans l'émail,¹⁶ on peut trouver dans ceux-ci des substances anormales non calcifiées de même aspect que celles mentionnées ci-dessus.

3. Dans les amélobomes ou perles d'émail superficiels, inclus ou libres, on trouve fréquemment les substances anormales non calcifiées. Parfois, nous trouvons des formations homogènes sur la surface de l'amélome (Figure 7). Dans les amélobomes constitués de globules ou lamelles améloïdes, les formations anormales non calcifiées se trouvent non seulement à la surface, mais s'étendent en profondeur, entre les formations améloïdes. Dans ces cas-ci, la masse n'est pas homogène; elle est composée de granules irrégulières ou des fibres qui pénètrent profondément dans les tissus calcifiés et qui parfois semblent être en continuité avec la substance organique qui sépare les globules ou les

lamelles améloïdes (Figures 8-10).

4. Dans les invaginations, où l'épithélium s'est invaginé dans la papille ou pulpe primitive et où il est ensuite entouré de dentine, il peut se former de l'émail et l'anomalie devient soit une "dens in dente" ou encore un amélome inclus. En continuité avec l'émail de ces anomalies-ci, nous trouvons souvent des formations non calcifiées de même aspect que celles rencontrées dans les amélomes (Figure 11). Parfois, l'émail ne se forme pas et nous trouvons ensuite à l'intérieur de la dentine une formation constituée de granules non calcifiés (Figure 12).

5. Dans les odontomes, le tissu améloïde et les substances non calcifiées peuvent se trouver en quantité abondante et leur aspect peut être très varié.

Dans les irrégularités de la surface de l'émail de l'odontome, on trouve souvent des formations correspondant à celles décrites ci-dessus dans les fissures, canalicules et amélomes.

Dans certains cas, on trouve sur la surface de l'émail de l'odontome des bandes de substance homogène non calcifiée rappelant une cuticule extraordinairement épaisse; parfois, on note une masse homogène qui semble remplacer la partie superficielle de l'émail et descendre en profondeur, rappelant le phénomène décrit récemment par Zérosi¹⁷ dans le germe d'une incisive d'un jeune chien (Figure 13).

Pathogénie

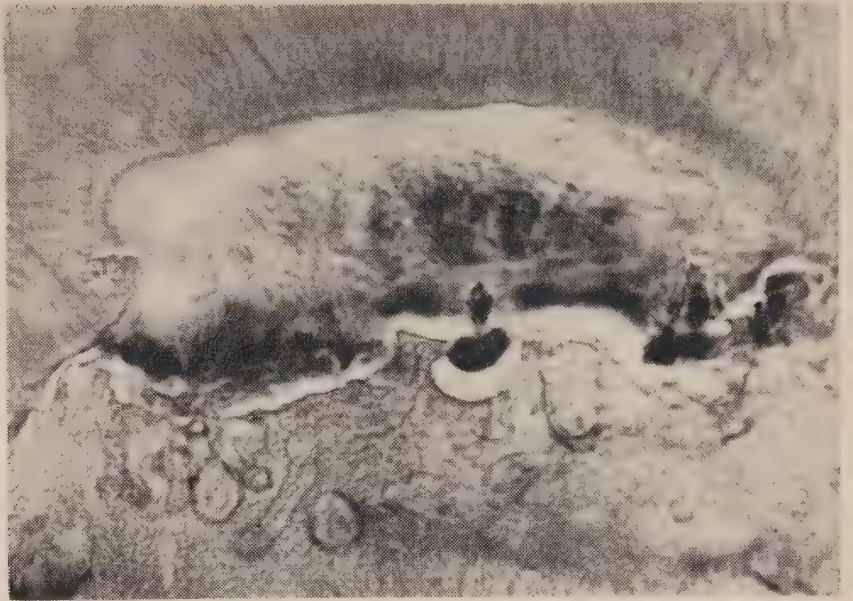
COLORATION

On trouve dans le tableau 1 les résultats des méthodes de colorations variées. La coloration des formations anormales non calcifiées est comparée avec celle de l'émail, de la cuticule de l'émail et du tissu améloïde; puisque les minéraux de prisme de l'émail et du tissu améloïde se dissolvent par la décalcification, il ne reste dans les coupes que la substance

TABLEAU 1 Résultats avec diverses méthodes de coloration.

Méthode	Coloration			
	Amas non calcifiés	Émail substance interprismatique	Cuticule	Tissu améloïde
Héματοxyline-éosine	bleu-noir violet foncé	bleu pâle violet pâle	bleu violet	bleu violet
AB - CR	incolore jaune violet	incolore jaune bleu	incolore jaune	incolore jaune bleu
P A B A	bleu	bleu	bleu	bleu
P A B S	bleu	bleu	bleu	bleu
Test au ferricyanure ferrique	bleu	bleu	bleu	bleu
Chlorure de néotétrazolium	brun-violet	brun-violet	brun-violet	brun-violet
Martinotti	violet rouge orange jaune doré	bleu violet incolore	bleu	bleu violet incolore
fuchsine-alun	rose pâle	rose pâle (matrice rouge vif)	incolore	rose pâle rouge (matrice rouge vif)

FIGURE 10 Des formations anormales foncées sur la surface d'un amélome superficiel avec des fibres qui pénètrent profondément dans l'amélome. Hématoxyline - éosine, grossissement original x 400.



interprismatique avec les gaines de prismes et la trame organique du tissu améloïde. S'il reste ici et là un peu du gabarit ou matrice de ces deux tissus, il se colore d'une couleur très foncée.

FIGURE 11 La formation ovale au centre et l'émail en haut de la figure constituent un amélome inclus profondément dans la dentine de la partie occlusale d'une dent surnuméraire de forme irrégulière. Entre l'épithélium, au milieu de l'invagination et l'émail, on note des masses anormales foncées, non calcifiées. Hématoxyline-éosine, grossissement original x 160.



Dans les coupes colorées à l'hématoxyline-éosine, la couleur de l'émail de la cuticule et du tissu améloïde varie du bleu à un violet pâle, d'après la technique et le degré de différenciation. Les formations anormales présentent deux colorations différentes: quelques-unes sont bleues noires, quelques-unes sont violettes foncées. En coloration à ABCR, les substances positives au bleu alcian sont bleues ou bleues-verdâtres, les substances négatives au bleu alcian sont incolores ou jaunes. Les endroits négatifs au ABCR deviennent très positifs surtout à PABA et aussi à PABS. Dans des formations qui se colorent d'une couleur uniforme à l'H.-E., la méthode de Martinotti différencie des zones de quatre couleurs différentes.

En résumé, la coloration des formations anormales non calcifiées correspond assez bien à la coloration de la trame organique de l'émail et du tissu améloïde et à la coloration de la cuticule de l'émail.

DISCUSSION

Les formations décrites diffèrent tellement des prismes de l'émail, des globules ou lamelles améloïdes qu'il faut les considérer comme une substance particulière. Dans certains cas, on pourrait distinguer deux formes: des formations homogènes, relativement grosses, pâles et des formations composées de petits granules ou

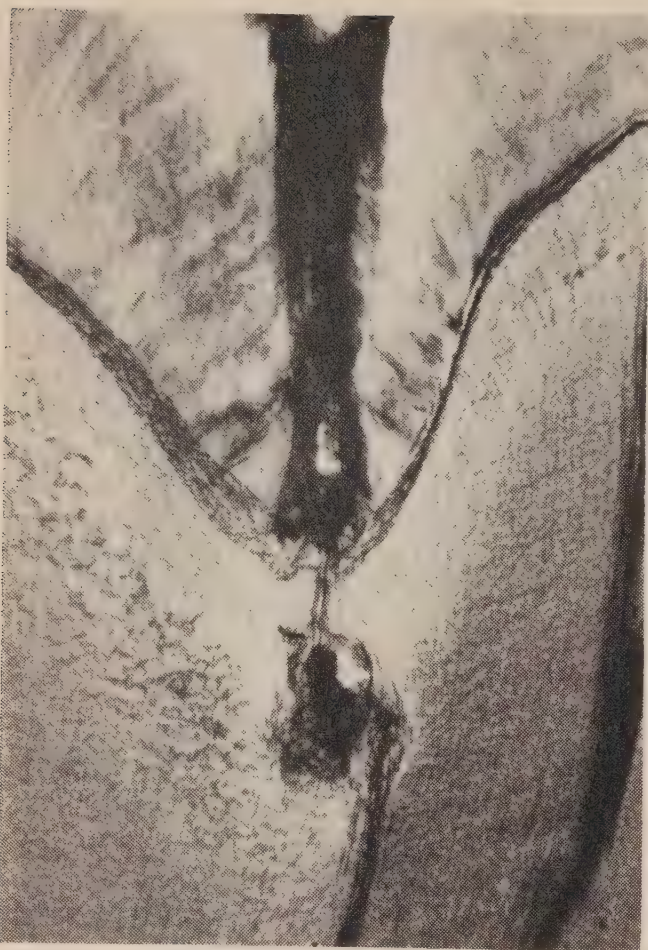
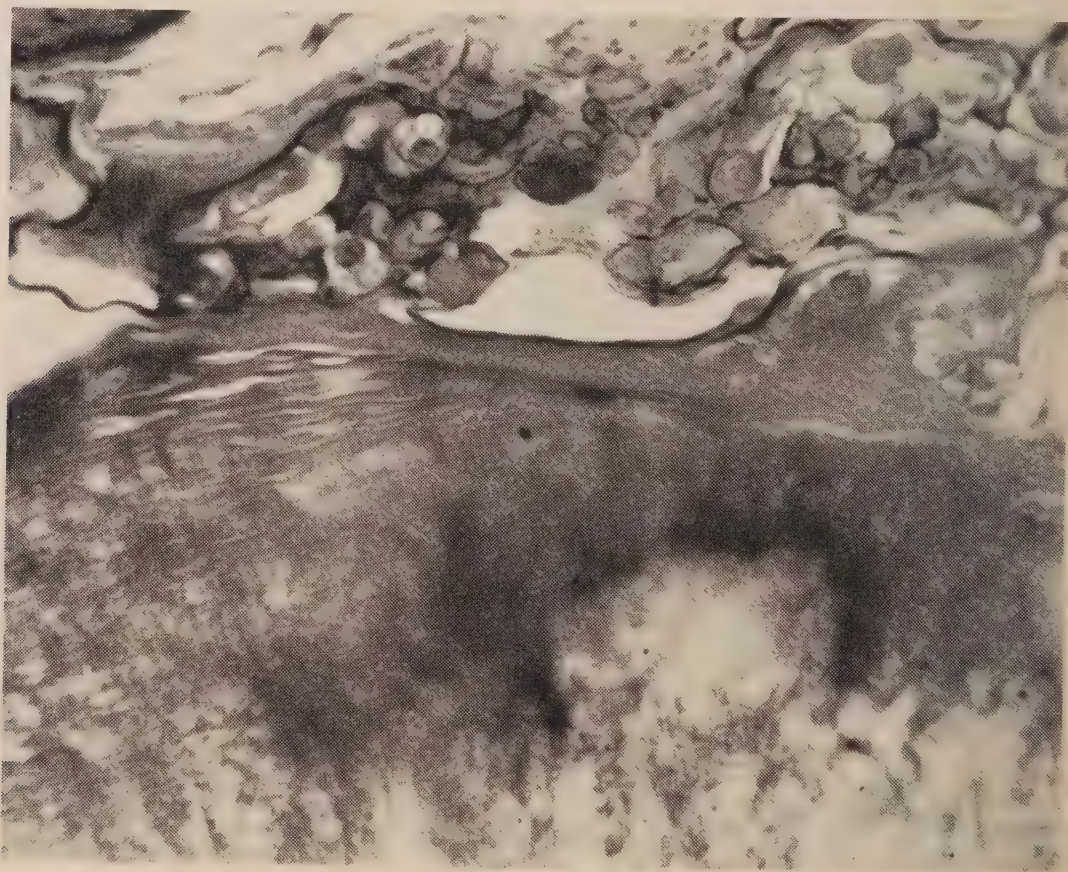


FIGURE 12 Le fond de la fissure sur la surface occlusale d'une prémolaire. Incluse dans la dentine, au dessous du fond de la fissure, se trouve une formation anormale, foncée, non calcifiée. Coupe par usure, grossissement original x 40.

FIGURE 13 Une partie d'un odontome libre simple. Transitions entre l'émail prismatique en bas, lamelles améloïdes un peu plus haut et une substance foncée homogène, près de la surface. Une bande homogène sur la surface rappelle une cuticule très épaisse et la substance se continue entre les globules améloïdes en haut. Hématoxyline-éosine, grossissement original x 160.



fibres, relativement foncées ou noires. Ces formations ne sont pas calcifiées même dans les cas où l'émail et le tissu améloïde adjacent sont calcifiés complètement, même dans les dents des individus âgés.

La présence de ces formations entre l'épithélium et l'émail ou au centre des îlots épithéliaux, en continuité avec les autres substances formées par l'épithélium, montre que ces formations non calcifiées sont aussi d'origine épithéliale.

Il faut distinguer les substances anormales non calcifiées d'origine épithéliale des autres formations rencontrées dans la pathologie dentaire.

Le tissu améloïde se distingue facilement par sa forme caractéristique^{2,3} et par sa calcification. Mais si les globules ou lamelles améloïdes se trouvent encore dans le stade du gabarit ou matrice, où ils ne sont pas encore complètement minéralisés, leur classification précise peut parfois être difficile à établir.

Les cémenticles se trouvent souvent au voisinage des formations d'origine épithéliale. La structure fibrillaire et collagène du ciment peut être clairement mise en évidence par l'imprégnation à l'argent ou par la coloration au bleu alcian avec chlorantine fast red.

On trouve souvent dans les amélomes superficiels des lamelles assez épaisses.¹⁸ L'imprégnation à l'argent montre dans celles-ci des fibrilles qui sont en continuité avec le conjonctif adjacent. Nous les avons trouvées simultanément avec les formations décrites ci-dessus. On trouve parfois dans le conjonctif des formations irrégulières, foncées; elles sont probablement des calcifications dégénératives qui n'ont aucune relation avec l'épithélium.

Les observations suivantes indiquent que ces formations ne sont pas calcifiées:

Dans les coupes par usure observées en lumière polarisée entre les nicols croisés, les tissus calcifiés montrent une biréfringence; les formations décrites ne sont pas biréfringentes. La substance calcifiée de l'émail et du tissu améloïde se dissout pendant la décalcification et, dans les coupes décalcifiées, on ne voit plus que la trame organique. Les formations décrites ne se dissolvent pas. La coloration à fuchsine acide, d'après Erös, colore les tissus calcifiés d'un rouge vif, même après la décalcification; les formations décrites

se colorent d'un rose pâle correspondant à celui des tissus mous.

Les colorations variées indiquent que les substances anormales étudiées sont de nature kératineuse. Quoique certaines méthodes employées aient été élaborées pour l'histochemistry, leur valeur histochimique n'a pas été montrée pour des coupes de dents décalcifiées. C'est pourquoi, plusieurs méthodes ont été employées sur les coupes de la même série pour voir si les résultats sont identiques. Les couleurs varient d'une formation à l'autre, mais toutes indiquent que les formations anormales se trouvent en différents degrés de kératinisation.

Les experts en kératinisation¹⁹ donnent plusieurs classifications de nombreuses kératines et plusieurs différents processus de kératinisation. La protéine de l'émail est une kératine au sens très large du mot, parce qu'elle est d'origine épithéliale et parce qu'elle présente certaines similarités avec les autres kératines. Les substances anormales étudiées ici seraient encore plus difficiles à classifier que les structures de l'émail normal. On peut d'une façon très générale considérer leur formation comme une forme particulière d'une kératinisation pathologique.

Histologiquement, les formations étudiées dans ce travail rappellent un peu la substance interprismatique, d'une part par leurs relations avec les structures adjacentes, d'autre part par leur coloration.

Plusieurs explications sont possibles.

1. Il peut s'agir d'une transformation particulière des cellules épithéliales dont les facultés pluripotentiellles sont bien connues.

2. Les substances anormales dans les fissures et canalicules de l'émail se forment là où la formation de l'émail se termine, où la faculté formative des améloblastes paraît être épuisée ou terminée un peu irrégulièrement. Parfois aussi la continuité entre l'émail, le tissu améloïde et les formations non calcifiées semble indiquer la diminution graduelle de la faculté formative des cellules épithéliales. La formation de substances non calcifiées pourrait donc être le degré le plus bas de l'activité formative de cellules de l'épithélium dentaire, leur produit final.

3. Dans les perles de Serres, où les cellules épithéliales ne se différencient pas

pour une fonction formative, nous trouvons parfois des substances qui se colorent de la même façon que les formations décrites ci-dessus. Celles-ci pourraient donc être un produit de cellules épithéliales qui n'ont pas atteint le degré habituel de différenciation.

4. Dans les amélomes et dans les odontomes, nous trouvons des substances non calcifiées avec les tissus résultant d'une amélogénèse pathologique excessive. La continuité et la similitude de coloration qu'on observe parfois entre les formations non calcifiées et la substance interprismatique indique qu'il pourrait s'agir d'une formation pathologique excessive de la substance interprismatique. Symons²⁰ suggère les kionoblastes, cellules particulières situées entre les améloblastes, formeraient la substance interprismatique. En présence d'une activité exagérée, des améloblastes produisant un excès de l'émail ou du tissu améloïde, une activité exagérée des kionoblastes pourrait former un excès de substance interprismatique pathologique. (Peut-être trouvera-t-on un jour une transformation tumorale et un kionoblastome?)

Cette étude peut expliquer au praticien la présence des masses molles dans les rugosités de l'émail immédiatement après l'éruption des dents ou sur les dents incluses. Ces dépôts pourraient faciliter la formation de plaques bactériennes, initier la calcification et la formation du tartre, et être décomposés par les micro-organismes de la plaque bactérienne et jouer un rôle dans l'initiation de la carie.

RÉSUMÉ

Il y a parfois des formations particulières dans les fissures, puits et canalicules de l'émail, dans les amélomes, invaginations et odontomes. Ces amas sont situés entre l'épithélium et l'émail, souvent en

continuité avec l'émail et le tissu améloïde, et semblent être formés par l'épithélium dentaire. Ils se distinguent de l'émail et du tissu améloïde par leur forme et leur structure et par le fait qu'ils ne sont pas calcifiés. Examinés par des méthodes variées, ils paraissent être de nature kératineuse.

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Storm warning

In the distance a glow breaks through a dark band of clouds, revealing Valhalla and Wotan with the gods about him, facing their flaming doom — Götterdämmerung.

A dental society in one of the nation's largest cities receives some 40 telephone complaints daily — an average of 8,000 such calls a year — from patients who nurse a grievance against their dentist. And for every disgruntled caller there are undoubtedly many more who do not take the trouble to search the yellow pages but who are nevertheless equally disenchanted with the profession. At the heart of many of these controversies lies the matter of fees. Why? Why do dental fees irritate so many patients to such an extent? Why this mounting tide of public dissatisfaction? And how long can this shocking state of affairs be permitted to continue? Are dentists really discarding every vestige of moral scruple and charging their patients outrageous fees — whatever the traffic will bear? Or does the public simply misjudge the real worth of dental care? Whatever the reason, it certainly does the profession no good. For anything that breeds resentment on this scale clothes the enemies of dentists with a mantle of public sympathy they do not deserve.

Some dentists, stung by the spectacle of the profession's deteriorating public image, call for improved communication with the public we try to influence, motivate, educate and help. Yet in doing so, they mistake publicity for public relations. Publicity is the attention gained from good performance; it is the 'telling' that results from the 'doing.' But you cannot simply purchase public relations. And no amount of publicity can bolster our sagging image if there is something wrong with the 'doing.' This will continue as long as patients depart from dentists' offices convinced that they have been duped, victimized or even cheated.

"The trouble with our profession," one dentist recently observed, "is that we over-educate dental students for tasks that comprise the bulk of current general practice. As a result, dentists formulate fees on the basis of the investment they have made in their education. But in the eyes of many patients these fees appear to be disproportionate to the services rendered."

Perhaps this assessment comes closer to the truth than many would suspect. If so, the profession can expect to reap further criticism and abuse until it modifies the pattern of dental practice by relieving the dentist of time-consuming and costly procedures that can be equally well performed by auxiliary personnel acting under his direction.

Undoubtedly, some readers will dissent from this view. Yet those who counsel blind adherence to the status quo should heed the warning that where responsible co-operation in the interests of economy is not met, freedom of action will be curtailed. This is not the shrill fulmination of an extremist. It is

the sober observation of a federal cabinet minister made at a recent gathering of hospital administrators. The admonition is even more pertinent to our own profession. Like the ancient gods of Valhalla, we can ignore it at our peril.

Le personnel auxiliaire

On a suggéré plusieurs remèdes pour solutionner la pénurie de dentistes en rapport avec la population du pays. La solution qui semble arrêter davantage — du moins à cette époque-ci — les regards de ceux qui se préoccupent de ce problème touche le personnel auxiliaire.

On situe ainsi le problème: il faut apporter dans le plus bref délai avec les effectifs des dentistes actuels, un soulagement à l'accumulation de traitements que réclame le public. Des mesures telles que la fluoration, l'éducation de nos citoyens en matière d'hygiène dentaire, les recherches et le recrutement de dentistes sont excellentes, mais elles auront un rendement pratique à longue échéance. La profession dentaire actuelle doit traiter ses *contemporains* et la seule façon qu'elle peut le faire avec efficacité consiste à partager le travail d'une façon logique avec un personnel subalterne.

La remise ou la délégation de pouvoirs à des corps auxiliaires est un phénomène normal dans l'évolution de toutes les professions. En effet quelques professions, souvent parce que la science, par ses progrès, devient de plus en plus complexe, ont réalisé qu'il valait mieux confier à des assistants des opérations techniques et de routine pour se consacrer à des tâches qui exigent vraiment une formation professionnelle.

L'histoire de la médecine est remplie d'exemples d'éclosion de professions auxiliaires et l'organisation de la profession d'infirmière dans sa forme actuelle est le résultat de la remise par les médecins de fonctions qu'ils accomplissaient autrefois eux-mêmes. Il est intéressant de noter que les garde-malades elles-mêmes ont confié à des aide-malades et à d'autres des travaux que, dans le passé, elles accomplissaient elles-mêmes. On peut aussi citer l'exemple des ingénieurs qui ont créé, pour les soulager de certaines tâches de routine, les métiers de techniciens en génie ou en dessin.

La profession dentaire s'éveille aux avantages qu'elle retirerait en confiant à des personnes qu'elle formerait elle-même et qui travailleraient sous son contrôle immédiat.

En Colombie britannique, la loi dentaire a été récemment amendée pour accorder plus de latitude aux hygiénistes dentaires. Celles-ci peuvent maintenant, en plus de leurs prérogatives ordinaires, accomplir des interventions qui étaient autrefois réservées aux dentistes:

1. appliquer des pansements d'urgence ou calmants aux tissus durs et aux tissus mous de la cavité buccale;
2. confectionner des modèles d'étude et des masques faciaux, prendre des photographies pré-opératoires, etc.;
3. fabriquer et ajuster des appareils de prothèse amovibles et, pour ce faire, entreprendre les manipulations nécessaires dans la bouche, mais sans établir de diagnostic, de plan de traitement ou de pratiquer la chirurgie des tissus de la bouche.

Le Corps dentaire royal canadien^{1,2} a créé une nouvelle catégorie d'assistants du dentiste qu'il a appelés techniciens en thérapeutique dentaire. Ces assistants

— toujours sur la surveillance directe du dentiste — posent certains gestes qui autrefois auraient été défendus.

Ces techniciens peuvent:

1. en dentisterie opératoire: poser la digue, ajuster les matrices, insérer et finir les obturations en amalgame et en silicate.

2. en prothèse partielle: prendre des empreintes pour des modèles d'étude, prendre les empreintes finales, enregistrer l'occlusion et choisir les dents.

3. en prothèse complète: prendre les empreintes préliminaires; enregistrer les données simples de l'occlusion.

4. en périodontie: appliquer le ciment chirurgical et donner les conseils que les patients doivent suivre à la maison.

Ces exemples indiquent les tendances actuelles de la profession dentaire. Ce n'est pas tout. La profession, depuis peu, a entrepris de former elle-même des assistantes dentaires. Dans certaines provinces, notamment en Ontario, en Alberta et en Colombie britannique, les dentistes, en collaboration avec ou le Ministère d'éducation ou les facultés dentaires ou les écoles d'arts et métiers, ont organisé des systèmes par lesquels des jeunes filles se préparent à devenir assistantes dentaires.

D'autres indices, qui révèlent que la profession s'intéresse sérieusement à cette façon de solutionner le problème que soulève la carence de main-d'œuvre, se trouvent dans le fait que l'Association dentaire canadienne doit convoquer dans un avenir rapproché — si ce n'est pas déjà fait — tous ceux qui s'occupent au pays de l'organisation de ces cours pour assistantes dentaires et, en une autre occasion, toutes les directrices d'écoles hygiénistes dentaires des universités, dans le but d'uniformiser les curriculums d'enseignement et les exigences préalables.

La Commission Hall, par ailleurs, a les mêmes vues sur la question, lorsqu'elle propose de créer son corps 'd'auxiliaires dentaires'.

La profession entend de plus en plus partager sa besogne avec des assistants et les années prochaines verront beaucoup d'activité dans ce domaine.

G. de M.

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Congrès national de l'Association dentaire canadienne du 30 mai au 2 juin, à Québec

Ne manquez pas le prochain numéro du *Journal de l'Association dentaire canadienne*. Vous y trouverez un résumé de ce que nous préparons pour votre prochain congrès national.



L'Association

Tournée du président dans l'est du pays

Le docteur Rémy Langlois, président, et William G. McIntosh, secrétaire-élu, ont terminé leur tournée annuelle dans l'est du pays. Ils ont assisté du 19 au 23 octobre, à des réunions de sociétés dentaires à Québec, Moncton, Charlottetown, et Halifax. Le docteur Langlois a représenté l'Association à la Clinique annuelle d'automne du Montreal Dental Club, le 26 et 27 octobre 1964.

Au Parlement fédéral

Le projet de loi du Collège au Sénat

Ce bill S-44, incorporant le Collège royal des chirurgiens dentistes du Canada a reçu l'approbation du Sénat vers la fin de 1964. Ce bill sera présenté prochainement aux Communes. Le sénateur Donald Smith (Queens-Shelburne) était le parrain du bill. Le Conseil des Gouverneurs de l'A.D.C. a donné son approbation à la création du Collège en 1964. La première fonction de ce nouveau Collège sera d'établir et éventuellement de hausser les standards de la spécialisation en chirurgie dentaire. Ce Collège se propose de décerner des certificats et des "fellowships" dans les spécialités officiellement reconnues au pays.

Les députés discutent de problèmes dentaires

La Chambre des Communes du Canada a entendu parler de questions dentaires dans

un discours que prononçait récemment le docteur Joseph Slogan, un dentiste et membre du Parlement pour Springfield (Manitoba). Voici des extraits de son allocution:

"J'aimerais savoir ce que le Ministre a fait dans le but de consacrer de l'argent à l'établissement de plans-pilotes pour étudier des plans dentaires à paiements anticipés plutôt que de laisser la profession en assumer toute la responsabilité.

"Je veux encore demander quelles dispositions compte prendre le Ministère dans le but de créer des octrois d'hygiène dentaire en vertu des octrois nationaux de santé . . . Il faut de toute nécessité octroyer des subventions d'hygiène dentaire. Le Ministre a reçu une recommandation spécifique à ce sujet de l'Association dentaire canadienne et je voudrais qu'il fournisse une réponse . . . exposant ses projets sur cette question.

"Je . . . [recommande] . . . qu'on prenne des dispositions pour que la rémunération versée aux professionnels qui sont au service du gouvernement soit équivalente à celle qu'ils recevraient s'ils étaient en service privé. A moins qu'on fasse ainsi, il est possible qu'on ne puisse trouver un nombre suffisant de professionnels qui voudront travailler pour le gouvernement et les conditions de travail n'y attireront pas les meilleurs éléments, mais plutôt les moins bons. Je crois que la population canadienne a droit à la meilleure qualité de professionnels. Je crois que les individus, qui se consacrent à la santé publique au Canada et qui acceptent des positions du gouvernement, ont droit à une meilleure rémunération. Je recommande aussi que les dentistes et que les médecins reçoivent le même salaire, parce que je ne connais pas de raison qui justifie que la profession dentaire occupe un échelon inférieur.

" . . . Le Ministre devrait donner son autonomie à la division dentaire pour qu'en fin de compte les décisions prises pour la chirurgie dentaire le soient par elle-même et non par des médecins. C'est peut-être le manque d'autonomie, dans ce domaine qui explique pourquoi la dentisterie a été placée à un niveau aussi bas dans les services du gouvernement . . ."



Photo prise lors d'une réception au 'Cercle Universitaire,' Québec, le 19 septembre 1964, en l'honneur du Dr Rémy Langlois, à l'occasion de sa nomination au poste de président de l'Association dentaire canadienne. On voit, de gauche à droite, R. M. LeBlanc, registraire du Collège des chirurgiens dentistes de la province de Québec; Rémy Langlois; Don W. Gullett, ancien secrétaire de l'Association dentaire canadienne; Henri Brouillet, président du Collège des chirurgiens dentistes de la province de Québec; Louis Bernier, président du Congrès 1965 de l'Association dentaire canadienne; et J. G. A. Grenon, président de l'Association dentaire de la province de Québec.

Canada

Nouvelle école dentaire en Ontario

Le premier ministre John Robarts vient d'annoncer qu'une nouvelle école dentaire sera établie à l'Université Western Ontario, à London. La nouvelle école se propose de décerner des diplômes à ses premiers finissants en 1969 et d'avoir éventuellement des classes de 60 élèves. Cette école fera partie d'un nouveau centre des sciences de santé qui sera créé sur le campus de l'Université. Le premier ministre a aussi annoncé que son gouvernement verserait des octrois pour construire un nouvel hôpital universitaire qui fera partie de ce centre de santé. Selon M. Robarts, le gouvernement dépensera plus de \$100 millions au cours des prochaines années, pour augmenter les disponibilités pour la formation de médecins, de dentistes et d'infirmières.

L'Association dentaire canadienne avait recommandé, dans son mémoire à la Commission royale d'enquête sur les services de santé, la création d'une école dentaire à l'Université Western. La Commission Hall en avait fait une de ses recommandations au sujet de la création de nouvelles

écoles dentaires. La profession dentaire avait fait des pressions auprès du gouvernement pour l'établissement d'une nouvelle école à Western.

Frais de cours post-scolaires déductibles

"Pour 1964 et les années suivantes, les frais de scolarité versés à une institution d'enseignement au Canada pour un cours post-scolaire sont déductibles (pour fins d'impôt); mais ne le sont pas les dépenses de voyage ou de séjour en rapport avec l'inscription à un tel cours." Le Ministère du revenu a remis ce nouveau texte au sein d'instructions pour l'impôt sur le revenu à l'Association dentaire canadienne pour qu'elle le fasse connaître. L'A.D.C. tente depuis longtemps à obtenir cette déduction pour les dentistes.

Bourses d'études du Fonds pour l'enseignement dentaire

Le Fonds canadien pour l'enseignement dentaire vient d'annoncer qu'il a donné quatre bourses pour permettre à des dentistes d'entreprendre des études graduées en vue de l'enseignement. Ces bourses sont les premières à être versées par le Fonds

depuis qu'il existe, c'est-à-dire deux ans. Les bourses dont le total se chiffre à \$6,000 ont été remises au docteur Gérald E. Albert, un diplômé (1963) de l'Université de Montréal, qui étudie la pédodontie à l'Université d'Indiana; au docteur Kenneth C. Bentley, qui a obtenu des diplômes en chirurgie dentaire et en médecine à l'Université McGill, et qui est résident en chirurgie buccale à l'hôpital Bellevue, de New York; au docteur Victor N. Direnfeld, diplômé (1963) de l'Université de Toronto, qui étudie la chirurgie buccale à l'Université d'Illinois; au docteur Russele G. Stephens, un diplômé (1950) de l'Université de Toronto, qui faisait partie du personnel enseignant de l'Université Dalhousie et qui étudie la périodontie à l'Université Ohio State.

Le docteur James D. McLean, de Halifax, en annonçant l'octroi de ces bourses, a déclaré: "Ce geste marque une date dans l'histoire de l'enseignement dentaire. Les fiduciaires du Fonds espèrent qu'ils pourront très bientôt disposer de sommes plus considérables pour que, grâce à la générosité de la profession et de l'industrie dentaires, ils puissent en faire profiter l'enseignement dentaire au Canada."

Chronique internationale

Congrès de l'Association dentaire américaine

Le 105e Congrès de l'Association dentaire américaine tenu du 9 au 12 novembre, 1964, à San Francisco, a attiré plus de 25,000 dentistes et leurs familles, venant de toutes les parties des Etats-Unis et du monde. La Fédération dentaire internationale tenait conjointement avec le Congrès de l'A.D.A. sa 52ème réunion annuelle, du 7 au 14 novembre. L'Association dentaire canadienne était représentée par son président, le docteur Rémy Langlois, son secrétaire, le docteur Don W. Gullett et son secrétaire-élu, le docteur William G. McIntosh.

La F.D.I. constitue une fédération permanente de 52 sociétés dentaires nationales de divers pays; chacune des sociétés composantes garde son autonomie dans ses affaires domestiques, mais elle

collabore, grâce à ses délégués, à formuler les politiques dentaires internationales. Le docteur Erich Müller d'Allemagne, est le président de la F.D.I. Le docteur Gullett, le secrétaire de l'A.D.C., est membre du Conseil de la F.D.I.

Le thème du Congrès conjoint était le suivant: "Collaboration internationale pour une meilleure santé dentaire." Au nombre des nombreuses séances spéciales, il y avait la Conférence internationale sur le journalisme, à laquelle a participé le rédacteur du *Journal de l'Association dentaire canadienne*, le docteur F. H. Compton. M. K. L. Croft, sous-secrétaire de l'A.D.C., a participé à un symposium sur la rédaction scientifique des curriculums dentaires et médicaux. Plus de 600 conférences cliniques, séminaires, expositions, communications et pellicules cinématographiques ont été offerts aux congressistes.

Le nombre des membres de l'A.D.A. atteint un nouveau sommet

Le nombre des membres de l'Association dentaire américaine a atteint 102,379, le 30 septembre 1964. Le record précédent avait été établi le 31 décembre 1963 quand le nombre de ses membres s'était élevé à 101,161. Il y a 88,606 membres actifs et à vie, 457 membres affiliés, 44 membres associés, 60 membres honoraires et 13,212 membres étudiants.

Organismes dentaires

Deuxième réunion de l'Académie canadienne des sciences dentaires

L'Académie canadienne des sciences dentaires a tenu sa deuxième réunion au Centre Social de l'Université de Montréal, dimanche, le 4 octobre 1964. A cette occasion, le docteur J. H. Eshleman, de Philadelphie, a présenté un cours sur le "Practice Administration" qu'il donne depuis de nombreuses années à l'Université Temple.

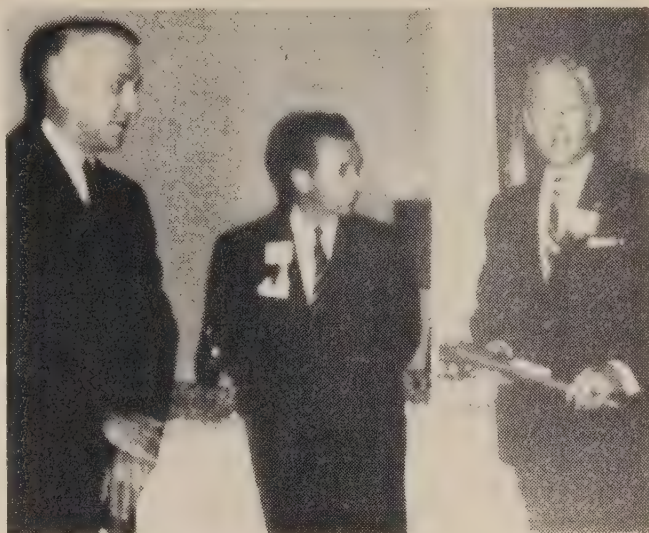
De nombreuses assistantes dentaires étaient présentes à ce cours.

Cette journée d'étude s'est terminée par un dîner, où étaient présentes les épouses. Des certificats de membre honoraires

furent décernés par le président, le docteur Jacques Dufour, aux docteurs James McCutcheon, doyen de la faculté dentaire de McGill et au docteur Eshleman. Les docteurs Roger Grégoire, Guy Renaud, Claude Maranda, nouveaux membres furent présentés à l'assemblée par le secrétaire, le docteur J. A. Guay.

Province de Québec: don du Collège à la faculté de l'Université de Montréal

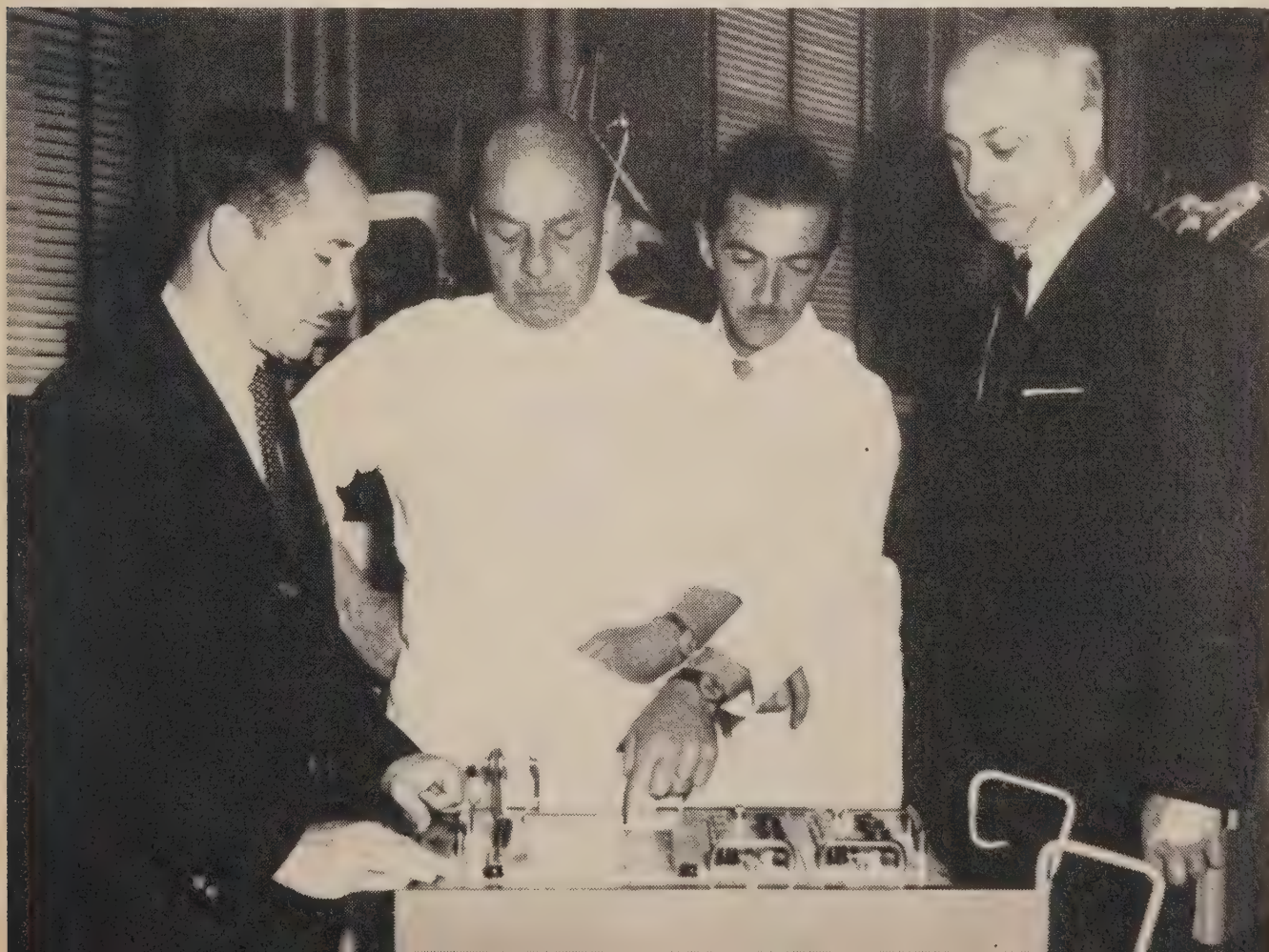
Le Collège des chirurgiens dentistes de la province de Québec a offert à la Faculté de chirurgie dentaire de l'Université de Montréal un transducteur de pression qui servira aux recherches dans cette école. Sur la photographie, on remarque, de g. à d. le docteur Jean-Paul Lussier, doyen de la Faculté; le docteur Paul Geoffrion, directeur du département d'orthodontie; le docteur Claude Baril, professeur agrégé



A l'occasion de la deuxième réunion de l'Académie canadienne des sciences dentaires, à Montréal, on remarque de g. à d. James McCutcheon, doyen de la Faculté de chirurgie dentaire de l'Université McGill; Jacques Dufour, président de l'Académie; et J. H. Eshleman de Philadelphie, conférencier invité.

en orthodontie; et le docteur Henri Brouillet, président du Collège.

Don du Collège des chirurgiens dentistes de la province de Québec à la Faculté de chirurgie dentaire, Université de Montréal, d'un transducteur de pression. De g. à d.: Jean-Paul Lussier, doyen de la Faculté; Paul Geoffrion, professeur titulaire et directeur du département d'orthodontie à la Faculté; Claude Baril, professeur agrégé et assistant-directeur du département d'orthodontie à la Faculté; Henri Brouillet, président du Collège.





Célébration du 60e anniversaire de la fondation de la Faculté de chirurgie dentaire de l'Université de Montréal. De g. à d.: Henri Brouillet, président du Collège des chirurgiens dentistes de la province de Québec; Monseigneur Irénée Lussier, recteur de l'Université de Montréal; Gérard de Montigny, vicedoyen de la faculté; l'Honorable Alphonse Couturier, Ministre de la santé du gouvernement de la province de Québec; Jean-Paul Lussier, doyen de la faculté.

Facultés dentaires

Célébration du 60e anniversaire de la fondation de la Faculté de chirurgie dentaire de l'Université de Montréal

La Faculté de chirurgie dentaire de l'Université de Montréal célébrait, le 24 octobre dernier, le 60e anniversaire de sa fondation. Le programme de la journée, auquel ont collaboré le corps professoral et les étudiants, comportait une visite des locaux de la Faculté, des séances d'étude avec démonstrations cliniques télévisées en circuit fermé, la projection de films scientifiques portant sur des sujets dentaires, et un banquet au cours duquel l'Honorable Alphonse Couturier, ministre de la santé du Québec, prononçait une allocution portant sur des considérations sur l'organisation du Ministère de la santé en matière d'hygiène dentaire. Près de 500 diplômés de la Faculté de chirurgie dentaire, dont quelques-uns venus de l'Ontario, des provinces maritimes et des Etats-Unis, ont répondu à l'invitation de la Faculté.

Le programme scientifique de la journée comprenait les postes suivants, en plus de pellicules cinématographiques:

Télévision en circuit fermé.—La biopsie et le dentiste, William B. Donohue; Interprétation radiologique, Jean Fontaine; Réanimation cardiaque, Paul Mercier; La technique du "Cramp Lock," Pierre Desautels.

Cliniques de table.—Analgésimétrie expérimentale, Gordon Williams, 3e année; Méthode d'étude des neuroleptiques, Mme Solange Simard-Savoie et Guy Lalande,

2e année; Réaction de la pulpe dentaire aux irritants, Gérard Archambault, 3e année; Couronnes sur dents pour amalgame, Georges Perreault; L'acide citrique et ses relations avec le tissu osseux, J. G. Lagüe; Recherches sur une méthode d'évaluer les lésions pré-cancéreuses, William B. Donohue; Santé dentaire: éducation, hygiène, diète, Mme Ruth Forest, Mlle Marguerite Lavoie, et Mlle Florence Melançon-Limoges; Maturité osseuse et croissance chez les enfants canadiens-français, Camille Brunet, 2e année; Electromyographie, J. M. Fortin, 4e année; La virulence des staphylocoques, Robert Lawlor, 4e année; Analyse de la dentition mixte et appareils de maintien, René Bourcier et George Barket; Dentisterie cosmétique (utilisation de la porcelaine dans la restauration dentaire), Jacques Fiset et Jacques Bégin.

L'histoire de la Faculté se résume ainsi: l'Association des chirurgiens dentistes de la province de Québec fondait, en 1892, une Ecole dentaire bilingue. Cette association devenait, en 1896, le Collège des chirurgiens dentistes de la province de Québec. Soucieux de donner à la profession tout son prestige et d'assurer à ses membres une formation médicale et scientifique, le Collège demandait, la même année, l'affiliation de l'Ecole de la Faculté de médecine de l'Université Bishop qui pouvait dès lors décerner le grade de docteur en chirurgie dentaire. En 1904, les docteurs Eudore Dubeau, Joseph Nolin et J. G. A. Gendreau fondèrent l'Ecole dentaire Laval, affiliée à l'Université Laval de Québec.

L'Université de Montréal obtenant son autonomie en 1920 en vertu d'une charte

provinciale, l'Ecole dentaire devenait annexée à cette université et était élevée, l'année suivante, au rang de faculté.

Accréditée par l'Association dentaire canadienne et par l'American Dental Association, la Faculté reçoit, cette année, 218 étudiants, dont huit étudiantes. Elle organise des cours post-universitaires et possède un département d'orthodontie où l'on peut obtenir une maîtrise après deux ans d'étude et soutenance de thèse. Elle accueille des dentistes de plusieurs pays francophones qui veulent parfaire leurs études ou s'établir au Canada. Le corps professoral comprend 16 professeurs à temps plein, dix à demi-temps et une cinquantaine à temps partiel.

Corps dentaire royal canadien

Voyage officiel du brig. Baird

Le 24 septembre 1964, le brig. K. M. Baird, directeur général des Services dentaires des forces canadiennes, s'est rendu à l'Ecole du Corps dentaire du Camp Borden, où il a accordé une entrevue aux candidats qui suivent le cours de préparation au grade de major.

Promotion

Nous félicitons le cap. H. J. Cashin, 1er Dépôt du personnel, Halifax, de sa récente promotion au grade de major. Diplômé en 1958, il a été en service continu depuis lors et il a reçu son brevet régulier en juillet 1964. Il est marié et père d'une fille.

Cours de préparation au grade de major

Les officiers dentistes ci-après se sont présentés comme candidats à l'Ecole du Corps dentaire pour y suivre, du 14 septembre au 23 octobre 1964, le cours préparatoire au grade de major: les capitaines: H. W. Brogan, base de l'A.R.C., Greenwood (N.-E.); L. Dombowsky, base de l'A.R.C., Chatham (N.-B.); B. G. Johnston, Camp Gagetown (N.-B.); R. J. Paturel, Shearwater, Dartmouth (N.-E.); J. G. Parent, base de l'A.R.C., Goose-Bay

(Lab.); Y. Kamachi, Ecole royale canadienne du Génie militaire, Vedder-Crossing (C.-B.); J. J. B. Houde, base de l'A.R.C., Winnipeg (Man.); E. W. Gazo, 4e Compagnie dentaire de campagne, Allemagne; P. P. Morin, 4e Compagnie dentaire de campagne, Allemagne.

Cours suivi par les officiers de la milice

Les candidats ci-dessous ont suivi avec succès le cours de soins aux blessés donné, du 14 au 18 septembre 1964, à l'Ecole du Corps dentaire: les majors J. G. Blackmer, W. O. Mulligan, L. A. Cormier, de la 51e Unité dentaire, Winnipeg, et les capitaines ainsi que le major T. F. Gelley, de la 57e Unité dentaire, Winnipeg, et les capitaines D. E. Bell, 54e Unité dentaire (M), Ottawa, W. M. Godsoe, 56e Unité dentaire (M), Toronto, et C. L. Gulleckson, 60e Unité dentaire (M), Edmonton.

Concours de compétence, Corps dentaire royal canadien (Milice)

On a distribué des trophées et des parchemins aux unités suivantes du Corps dentaire (M) qui ont participé au concours de compétence générale:

La 57e Unité dentaire, Winnipeg, commandée par le Lt-col. M. J. Snidal, a reçu le trophée Moore pour compétence générale.

On a décerné le trophée Trelford, pour compétence générale, à la 60e Unité dentaire, Edmonton qui s'est classée deuxième.

La 55e Unité dentaire, London, commandée par le Lt-col. J. D. McLean, a reçu le trophée Mémorial de l'Association dentaire de la Saskatchewan, à titre d'unité qui, d'une façon générale, a fait le plus de progrès.

L'Association du Corps dentaire élit son conseil

Le Lt-col. A. Z. Henry de Toronto était élu président, pour l'année 1964-1965, à la seizième assemblée annuelle de l'Association du Corps dentaire, tenue les 17 et 18 septembre 1964, à l'Ecole du Corps dentaire du Camp Borden.

Ont été nommés membres du conseil: Lt-col. M. J. Snidal, Winnipeg: président-élu; Lt-col. A. J. Harris, London: 1er vice-

président; Lt-col. J. E. Hallett, Halifax: 2e vice-président; Col. C. E. Woods, Ottawa: trésorier; Col. C. B. H. Climo, Ottawa: secrétaire.

Le lt-col. G. L. Ramsay, Saint-Jean (N.-B.), président-sortant-de-charge; le col. J. F. Edgecombe, colonel commandant, et le brig. E. M. Wansbrough, ancien directeur général des Services dentaires, assistaient à la réunion.

Echange d'officier dentiste avec l'Armée américaine

Le maj. D. H. Newell, officier dentiste américain qui est affecté à l'Ecole du Corps dentaire du Camp Borden (Ont.), en vertu du programme d'échange d'officiers dentistes, est particulièrement bienvenu parmi le personnel enseignant. En 1958, il obtenait son diplôme de l'University of Illinois College of Dentistry. Depuis lors, il a servi en Corée, au Brooke Army Hospital, Fort Sam Houston, et Fort Monmouth (New Jersey). Le major Newell vient de terminer son stage de résident en périodontie et il a obtenu une maîtrise en sciences, histologie buccale en 1964.

Formation professionnelle

Le maj. D. J. MacPhee, Hôpital des Forces canadiennes, à Kingston (Ont.), a été choisi pour suivre le cours de Cogswell en chirurgie buccale à la base aérienne d'Ent de l'Aviation américaine, Colorado Springs (Colorado), du 30 novembre au 11 décembre 1964.

Mutation d'officiers

La première sous-section dentaire, qui a servi avec les Nations Unies à Chypre, sous les ordres du cap. J. M. L. Rochefort, Saint-Fidèle (P. Qué.), vient de rentrer au Canada après une absence de six mois, et elle sera affectée à la 15e Compagnie dentaire, Montréal. Le cap. R. M. MacDonald, base de l'A.R.C., Trenton (Ont.), remplace le cap. Rochefort.

Le maj. J. L. Y. Cyrenne, qui se trouvait avec le détachement dentaire canadien, Unités de base canadiennes, Force d'urgence des Nations Unies au Moyen-Orient, est revenu au Canada au début de septembre et il a été affecté à la 15e Compagnie dentaire, Montréal; le cap. J. H. G. R. Charron de Québec le remplace.

Fluoration

La ville d'Edmonton rejette la fluoration

Les partisans de la fluoration, à Edmonton, malgré une campagne vigoureuse, n'ont pas réussi à obtenir les deux-tiers des votes en faveur de cette mesure, tel que l'exige la loi d'Alberta au sujet des référendums. Le comptage final a donné 65.04 pour cent de votes en faveur de la fluoration, mais il fallait une majorité de 66 2/3 pour cent. Le plébiscite du 14 octobre était le quatrième tenu à Edmonton en sept ans et il est celui qui a donné la majorité la plus considérable en faveur de la fluoration, mais celle-ci n'était pas suffisante.

Les villes de Birmingham et de Dublin adoptent la fluoration

La ville de Birmingham, en Angleterre est la première ville anglaise à fluorer régulièrement l'eau de son aqueduc. Birmingham est la deuxième ville la plus considérable en Angleterre, avec une population de 1,270,000 habitants. D'autres villes avaient déjà fluoré leur eau, mais il ne s'agissait que d'expériences.

Le secrétaire du Ministère de la santé d'Irlande a fait part que la ville de Dublin et des parties des comtés de Dublin, Kildare et Wicklow (700,000 de population) ont commencé à fluorer leur eau de consommation en vertu de la Loi de santé de 1960. Récemment, la Cour Suprême d'Irlande avait reconnu la constitutionnalité de la loi, et cette loi rend la fluoration obligatoire après certaines considérations.

News from Parliament

Senate Approves Royal College

Bill S-44, an Act to incorporate the Royal College of Dentists of Canada, was given third reading and passed by the Senate of Canada on November 25, 1964. The bill now goes to the House of Commons for approval.

On November 23 a delegation from the Canadian Dental Association, petitioner for the bill, attended a Senate Committee hearing on the bill. Representing the Association were President Rémy Langlois, M. A. Rogers, chairman of the C.D.A. Specialists and Specialization Committee which initiated the proposal, Don W. Gullett, W. G. McIntosh, and the Association's solicitor G. D. Watson.

The Association

Provincial Secretaries Meet

Secretaries of provincial dental organizations held their fifth annual conference November 30 to December 2, 1964, at Association headquarters in Toronto. Each secretary reported highlights of current interest in his province. The reports provide an opportunity for valuable exchange of information and ideas. Among the subjects discussed were control of dental practice, licensure, discipline and legislation; operation of low cost denture clinics; provincial fee schedules and relative value system for fee determination; Royal Commission on Health Services, auxiliary personnel and dental service corporations; dentists' legal protective associations; interprofessional relations; and the Canadian Fund for Dental Education.

Attending the conference were R. M. LeBlanc, Montreal, chairman; G. M. Dewis, Halifax; R. V. Winsor, St. John's; G. D. Barrett, Charlottetown; M. J. Crompton, Moncton; W. J. Dunn, Toronto; W. G. Campbell, Winnipeg; F. R. Smith, Saskatoon; G. E. Decker, Edmonton; W. R. Upton, Vancouver; C.D.A. Secretary Don W. Gullett, Secretary-designate W. G. McIntosh and other staff members.

International Items

31 Nations Participate in F.D.I. Assembly

Representatives of 31 countries participated in the 52nd annual session of the Fédération Dentaire Internationale, held in conjunction with the A.D.A. annual session in San Francisco. Canadian Dental Association delegates were President Rémy Langlois, D. W. Gullett and W. G. McIntosh. Dr. Gullett, an F.D.I. council member, was chosen as a vice-president of the F.D.I. Erich Müller of Germany continues as F.D.I. president and Knut Gard of Norway as president-elect.

The F.D.I. General Assembly considered reports ranging from a system for international classification of oral diseases to new international standards for dental materials. The special commission on oral and dental statistics and the special commission on standardization of dental materials were made standing commissions.

In other actions the General Assembly:

Designated Tel Aviv, Israel, as the site for the 54th F.D.I. annual session July 10-17, 1966. The F.D.I. will hold its 53rd annual session in Vienna;

Received a report that as of October 29, 1964, the F.D.I. had 5,524 supporting members;



St. Stephen's Cathedral, a dominant landmark in Vienna, Austria, where the *Fédération Dentaire Internationale* meets June 26 - July 3.

Designated Paris as site of the 14th World Dental Congress, July 7-13, 1967;

Approved application for full membership of the Dental Association of Southern Rhodesia; and

Approved application for corresponding membership of the Colegio de Odontólogos de Venezuela.

F.D.I. Meets in Vienna in '65

It's official now! Vienna in '65! That's where the F.D.I. will meet next year for the 53rd annual session, June 26-July 3. Those who attended the International Dental Congress there in 1936 will need no introduction to Vienna's fabulous museums, churches, palaces, theatres, wide avenues and famous parks. The city has undergone extensive redevelopment over the last 15 years — yet care has been taken to preserve its architectural heritage.

The Hofburg, former imperial palace,

and now the residence of Austria's president, is the site of the F.D.I. meeting. This famous building also houses the world-renowned Spanish Riding School, the federal treasury and the national library.

Headquarters hotel is the Vienna Intercontinental, the city's most modern hotel. Although 2,500 hotel beds have been reserved for visiting F.D.I. delegates, early registration is recommended as the meeting takes place at the peak of the tourist season. Moreover, enrolment fees for the annual session increase after March 1, 1965.

Scientific sessions on Tuesday June 29, Thursday July 1, and Friday July 2 will be devoted to endodontics; functional prosthetic rehabilitation; dental disease and the whole organism, with special reference to the relationship between otorhinolaryngology and dentistry. Simultaneous English, French and German translation will be provided. There will also be a large industrial exhibit at the Hofburg.

Social events include a performance at the Vienna State Opera, two performances at the Spanish Riding School, a banquet at the Vienna Intercontinental, the F.D.I. President's Reception for F.D.I. supporting members, and the F.D.I. Speakers' Reception for official delegates to the General Assembly.

Wednesday, June 30 has been set aside for excursions.

Information regarding the F.D.I. session may be obtained from G. H. Leatherman, Secretary General, 35 Devonshire Place, London W. 1, England. Dentists who wish to participate in the scientific program should secure an application form from the Organization Committee, 53rd Annual Session of the F.D.I., Weihburggasse 10-12, Vienna 1, Austria.

Pierson is A.D.A. President

F. A. Pierson of Nebraska was installed as 101st president of the American Dental Association during the recent annual session at San Francisco. M. K. Hine, Indianapolis, was chosen president-elect. Highest attendance, 23,118, at a regular A.D.A. annual session was recorded at San Francisco. Only the 1959 centennial observance at New York recorded a higher attendance.



Delegates at the opening meeting of the 52nd annual session of the Fédération Dentaire Internationale, San Francisco, November 9, 1964. White markers indicate official delegates of the Canadian Dental Association (l. to r.): Don W. Gullett, W. G. McIntosh and Rémy Langlois, C.D.A. president.

The A.D.A. House of Delegates voted to establish a national co-ordinating agency for dental service corporations. Delegates agreed overwhelmingly to establish the agency, independent of the A.D.A., but with a majority of directors "composed of ethically and legally qualified members of the dental profession."

In other actions, delegates imposed a three-year moratorium on recognition of new dental specialties; rejected a resolution asking the A.D.A. to "re-evaluate its position in support of federal aid to education and therefore oppose it;" rejected a resolution asking the A.D.A. to "register its approval and support of the Individual Responsibility Plan;" and adopted a resolution urging all dentists to inform their patients of the health hazards of smoking.

Dental Organizations

Vancouver Society Meets

At the October 1964 meeting of the Vancouver and District Dental Society 150 members heard Carl Regli, outstanding University of California prosthodontist, lecture on partial prosthodontics. Members of the Dental Laboratory Association of British Columbia were honoured guests at this meeting. Nine new Vancouver dentists were admitted to membership in the society.

There was another large attendance in November to hear Alfred Schuchard, as-

sociate professor of operative dentistry at the University of California. Dr. Schuchard spoke on effects of the use of ultra high-speed cutting instruments.

British Columbia Dentists Meet in Kamloops

The B. C. Interior Dental Society held its fall meeting in Kamloops on October 31, 1964. The clinician was N. C. Ferguson of New Westminster who gave an interesting presentation on gold inlay techniques. Dean S. Wah Leung of the University of British Columbia dental faculty also spoke on recruitment of dental students.

The new president of the society is J. R. Burnham of Vernon. He succeeds D. C. Hicks of Kamloops. Two dentists, H. L. Coursier and G. J. Cameron, were singled out and honoured for their long and distinguished service to the profession. Both have practised over 40 years.

Edmonton Society Honours Past Presidents

Former presidents were the guests of honour at the November 1964 meeting of the Edmonton and District Dental Society. Commemorative plaques were presented to 14 dentists who were presidents of the society prior to 1950. The recipients were J. C. Ward, A. M. Revell, J. D. Hawkins, G. E. Decker, C. H. Lipsey, F. MacDonald, H. R. Bulyea, M. M. Dunsworth, V. M.



Former presidents of the Edmonton and District Dental Society honoured at a dinner meeting in November 1964 are (front l. to r.) J. C. Ward, G. M. Revell, J. D. Hawkins, G. E. Decker and C. H. Lipsey; (centre) F. MacDonald, H. R. Bulyea, M. M. Dunsworth, V. M. Lloyd and W. Scott Hamilton; (rear) F. Gowda, P. J. Kendal, S. C. Hodgson and H. R. MacLean.

Lloyd, H. Scott Hamilton, F. Gowda, P. J. Kendal, S. C. Hodgson and H. R. MacLean.

Commemorative plaques were also sent to four past presidents—J. B. Carmichael, Edmonton; R. W. Bradley and R. Decker, Victoria; L. V. James, Hamilton — who could not attend.

Western Canada Society Meets in June

The Western Canada Dental Society will hold its next convention at the Banff Springs Hotel, Banff, Alberta, June 16-19, 1965, according to C. S. Lea, Calgary, president of the society. The Western Canada Dental Society is a grouping of dental organizations in the four western provinces. Convention chairman is J. C. Waddell of Calgary.

Montreal Fall Clinic Has Record Attendance

A diversified program of lectures, symposia, seminars, clinical presentations and table clinics as well as a record attendance marked the 39th annual Fall Clinic of the Montreal Dental Club, October 24-28, 1964. Two short courses, one on 'integrated' dentistry by A. E. Kahn, the other on practice management by H. M. Klenda, preceded the regular program. Notable

clinicians and essayists were Irving Glickman (periodontics) and Col. R. B. Shira (general surgery).

An innovation this year was a 'luncheon with learning' at which clinicians led informal discussions on various dental topics.

An honoured guest at the Fall Clinic was I. K. Lowry, formerly of the Department of Prosthodontics at McGill University between 1925 and 1946.

Three Montreal Societies Hold Joint Meeting

New York University's L. A. Weinberg addressed a joint afternoon and evening meeting of Montreal's three dental societies (Montreal Dental Club, Mount Royal Dental Society, Société dentaire de Montréal) in November 1964. Full coverage techniques and full crown preparations were the topics of the meeting.

Dr. Weinberg described a method of restoring a fractured abutment tooth in connection with a removable partial denture without having to remake the latter or depriving the patient of the denture during the laboratory phases of treatment. He also demonstrated methods of replacing discoloured veneers and replacing single retainers in long-span bridges.

N.S. Steering Committee Named

The Nova Scotia Dental Association has appointed the following as members of a provincial steering committee on the Hall Commission Report: J. E. Merritt, chairman; I. C. Bennett; D. C. Eaton; K. M. Kerr; and H. J. MacConnachie.

The committee has been directed to study the Hall Commission Report, to prepare a brief for the executive of N.S.D.A., and to co-operate with the steering committee of the Canadian Dental Association.

Similar steering committees have already been formed in certain provinces. Others are expected to follow.

N.S. Hygienists Meet

The Nova Scotia Dental Hygienists' Association held its fall meeting at Dalhousie Dental Building, Halifax, October 17, 1964. The vice-president, Phyllis Marshall, Kingston, presided. Charlotte Gully, Dartmouth, was named treasurer. She succeeds Frances Pearcey who has moved to Newfoundland.

Delegates discussed the possibility of extending membership to dental hygienists in adjacent provinces where no association currently exists. Also outlined were tentative plans for a Canadian Dental Hygienists' Association convention to be held in Nova Scotia in 1966. Mrs. Janet Burnham, director, Dalhousie University School of Dental Hygiene, reported on a dental hygienists' workshop which she attended in Chicago earlier during the fall.

Canadian Dental Schools

Appoint First U.W.O. Dental Dean

W. J. Dunn, registrar-secretary-treasurer of the Royal College of Dental Surgeons of Ontario, has been appointed first dean of the new dental school at the University of Western Ontario, London. Dr. Dunn will assume his duties February 1. The appointment paves the way for the university to accept its first class of predental students in the fall of this year.

In making the announcement, U.W.O. President G. E. Hall said early appoint-

ment of a dean was necessary if a class was to be accepted this year and a building planned and constructed in time for the fall of 1966.

Born and educated in Toronto, Dr. Dunn graduated from Toronto's Faculty of Dentistry in 1947. He conducted a private practice from 1947 to 1956 when he assumed his present position with the Royal College of Dental Surgeons of Ontario.



W. J. Dunn

A former editor of the *Journal of the Canadian Dental Association* and other publications, Dr. Dunn was president of the American Association of Dental Editors in 1958.

He is a member of the Faculty of Dentistry Council and the Senate of the University of Toronto and a special lecturer at that university.

Dr. Dunn was a member of the Steering Committee of the Canadian Dental Association for the Association's brief to the Royal Commission on Health Services in 1961-62, the Royal Commission on Taxation in 1962-63 and the Special Senate Committee on Aging in 1963-64.

Announcement that a dental school, second for Ontario, was to be established at U.W.O. was made last November by Premier Robarts.

Packer Named to Alberta U. Periodontics Post

M. W. Packer has been appointed associate professor and head of the Department of Periodontics, University of Alberta. Dr. Packer earned a B. S. degree from Utah State University in 1955, a D.D.S. degree in 1959 and a master of science in dentistry degree (periodontics) in 1964.

Alberta Faculty Enrols 230

Two hundred and thirty undergraduate dental students, dental hygiene students and students in graduate courses are registered in the Faculty of Dentistry, University of Alberta, for session 1964-65.

The breakdown of registration is as follows: first dental year 50, second dental year 52, third dental year 49, fourth dental year 41, making a total of 192 dental students. There are 22 students in first year dental hygiene and 11 students in second year dental hygiene, making a total of 33 dental hygiene students. Five students are enrolled in graduate courses.

Montreal Faculty Marks Sixtieth Anniversary

On October 24, 1964, the Faculty of Dental Surgery, Université de Montréal, celebrated the sixtieth anniversary of its foundation. The faculty was started in 1904 as the Montreal branch of the dental school of Université Laval. It has grown from a primitive establishment in Montreal's Quartier Latin, with four students in the initial class, to a modern teaching centre on the Université de Montréal campus along the northern slopes of Mount Royal. The faculty recently admitted 69 students to the first dental year. Present at the anniversary observance was Edmond Rouleau, 80, a graduate of the initial 1904 class.

Three New Appointments at Dalhousie U.

Dean J. D. McLean has announced three new appointments to the teaching staff at Dalhousie University Faculty of Dentistry. They include:

A. W. Eastwood, teaching fellow in orthodontics;

W. C. King, lecturer in dental public health; and

Kate MacDonald, instructor in dental hygiene at Dalhousie University School of Dental Hygiene.

Dr. Eastwood graduated from Liverpool University in 1942. Following service with the Royal Navy from 1943 to 1947 he went to Bermuda where he organized a school dental service for the island government. In 1948 he entered the University of Michigan where he received a master of

science degree in orthodontics in 1950. Dr. Eastwood returned to London where he practised orthodontics until his present appointment at Dalhousie University. For the past three years he has also been consultant orthodontist to the United States Air Force in England.

Dr. King, a Dalhousie University graduate, was recently appointed director of the Dental Health Division, Nova Scotia Department of Health.

Miss MacDonald, a native of Prince Edward Island, received her certificate of dental hygiene from Forsyth Infirmary School for Dental Hygienists, Boston, in 1953. Subsequently she joined the Prince Edward Island Department of Public Health where she served for three years. Latterly, she has worked in a private dental practice in Ottawa and with the Dental Health Division of the Department of National Health and Welfare.

Royal Canadian Dental Corps

Personnel Changes in Cyprus and Middle East

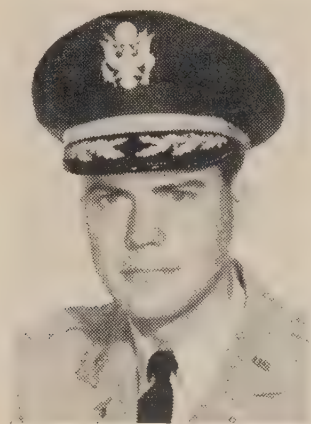
Capt. J. M. L. Rochefort's dental subsection, the first to serve with the United Nations in Cyprus, recently returned from a six-month tour in the eastern Mediterranean island and has been posted to No. 15 Dental Company, Montreal. Capt. Rochefort, who comes from Ste-Fidèle, P. Quebec, has been replaced by Capt. R. M. MacDonald, R.C.A.F. Station, Trenton, Ontario.

Maj. J. L. Y. Cyrenne has completed his tour with the Canadian Dental Detachment, Canadian Base Units, United Nations Emergency Force, Middle East. He returned early in September for duty in No. 15 Dental Company, Montreal. Maj. Cyrenne has been replaced by Capt. J. H. G. R. Charron of Quebec City.

Maj. Newell is U. S. Army Exchange Dental Officer

Maj. D. H. Newell is the new United States Exchange Dental Officer at the Royal Canadian Dental Corps School, Camp Borden, Ontario. Maj. Newell graduated from the University of Illinois College of

Dentistry in 1958. Since that time he has served in Korea, the Brooke Army Hospital, Fort Sam Houston and Fort Monmouth, New Jersey. Maj. Newell completed a residency in periodontics and received a master of science degree in oral histology in 1964.



Maj. D. H. Newell

Corps Conference Held

The 15th annual Director General of Dental Services' and Dental Unit Commanders' Conference was held at Canadian Forces Headquarters, Ottawa, November 22-25, 1964. Command dental officers and commanding officers attending were: Col. B. P. Kearney, Edmonton; Col. A. T. Roger, Trenton, Ontario; Col. R. H. G. Cunningham, Halifax; Col. R. B. Jackson, Montreal; Col. G. R. Covey, Camp Borden, Ontario; Lt.-Col. W. W. Anglin, Winnipeg; and Lt.-Col. C. M. Cornish, Ottawa.

Brig. Baird at San Francisco

Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces, attended the International Conference on Military Dentistry held in conjunction with the annual session of the American Dental Association at San Francisco, November 8-14, 1964. He presented a paper entitled "Effective use of dental manpower in the Armed Forces."

Fafard, Headley and Quinn Take Courses

Majors P. E. Fafard, Victoria, and R. H. Headley are attending a seven-week course and a one-week course respectively in oral surgery and partial prosthodontics at the United States Navy Dental School, Bethesda, Maryland, during January and February 1965.

Maj. M. P. Quinn of Vancouver attended a two-week course in complete prosthodontics at the University of Michigan, January 4-15.

Maj. MacPhee Attends Surgery Course

Maj. D. J. MacPhee, Canadian Forces Hospital, Kingston, Ontario, attended the Cogswell Course in oral surgery at Ent Air Force Base, United States Air Force, Colorado Springs, from November 30 to December 11, 1964.

Capt. Cashin Promoted to Major

Capt. H. J. Cashin, No. 1 Personnel Depot, Halifax, was recently promoted to the rank of major. He has served continuously since graduation in 1958 and converted to a Regular Commission in July 1964.

Economics

1963 Dentists' Incomes Estimated

Preliminary analysis of the returns of the latest Survey of Dental Practice conducted by the Bureau of Economic Research has resulted in tentative estimates of the 1963 net incomes of dentists in full-time private practice. The figures (subject to revision) by province are: Newfoundland \$14,500, Prince Edward Island \$12,800, Nova Scotia \$12,100, New Brunswick \$13,500, Quebec \$12,000, Ontario \$15,700, Manitoba \$13,800, Saskatchewan \$16,600, Alberta \$16,100, and British Columbia \$16,200. The average net income for the whole of Canada was \$14,900.

Advocate Dental Clinics for Marginal Income Group

The Dental Services Committee of the Royal College of Dental Surgeons of Ontario has recommended that dental care for persons of marginal income be provided through government clinics staffed by dentists and auxiliaries on a salaried basis. The Board of Directors of the R.C.D.S. had earlier requested the committee to study methods of providing den-

tal care to this population group. In its recommendation, made in October 1964, the committee suggested that such clinics could be located in hospitals or in separate buildings or that they could be traveling clinics. A means test was considered necessary for providing services of this nature.

Advocate Prepaid Care for Alberta

Among proposals recently presented to the directors of the Alberta Dental Association by M. J. Lipkind, association president, is a recommendation for a dental insurance scheme based on an indemnity type of prepaid co-insurance. The plan would begin with care of children from marginal income groups, with premiums subsidized if necessary by a third party. The plan would gradually be expanded to encompass other segments of the population.

Closed Panels Account for Half of Insured Dental Treatment

In 1963, 50 per cent of Americans with prepaid dental coverage received their dental benefits through group practices and clinics, a U.S. public health service brochure reports.

The fastest growing administrative mechanism is the dental service corporation, which administers plans for 18 per cent of the covered population. The runner-up is the commercial insurance company mechanism which now administers plans for eight per cent of those covered in the United States.

Sixty-four per cent of covered persons are in prepaid dental plans under union-employer sponsorship. Plans sponsored by employers alone account for 18 per cent of all covered persons.

Coe Employees Receive Dental Health Insurance

Employees of Coe Laboratories have voted to participate in a program of comprehensive group dental health insurance which became effective October 1, 1964. The insurance program (as reported on p. 674 of the October Journal) was developed by the Continental Casualty Company of

Chicago for the American Dental Trade Association, to which Coe belongs. Employee participation is entirely voluntary.

Premiums for this insurance are paid on a co-operative basis between Coe and the employees. Coe pays approximately two-thirds of the monthly premium; employees pay approximately one-third of the premium through payroll deduction. Both individual and family protection plans are available.

Under this program all types of dental treatment and services are covered including: routine oral examination and prophylaxis (at six month intervals), orthodontics, crown and bridge prosthodontics, complete and partial prosthodontics including denture replacement, paedodontics, and oral surgery. The individual plan offers annual maximum protection of \$150; the family plan offers annual maximum protection of \$375.

Any licensed dentist may be selected for treatment. The dentist simply completes a treatment plan and billing form. No contract between the dentist and the insurance company is involved. Benefits may be paid directly to the Coe employee or the dentist, whichever is preferred.

Fluoridation

Ottawa Votes for Fluoridation

Several fluoridation plebiscites were recently held in Ontario municipalities. Ottawa, Belleville and St. Thomas approved the measure while Guelph and Richmond Hill turned down the proposal.

Ottawa voters approved water fluoridation 58,234 to 36,079; Belleville voted 2,498 to 1,726 in favour; and in St. Thomas the measure was favoured 3,792 to 3,053.

Guelph rejected fluoridation 7,215 to 3,437; so did Richmond Hill by a score of 2,116 to 1,412.

Alberta Towns Vote for Fluoridation

The towns of Claresholm, Bowden and White Court, Alberta, voted in favour of fluoridation of community water supplies in plebiscites held during October 1964.

Unsuccessful plebiscites were conducted in Edmonton (where 65.04 per cent voted in favour but a two-thirds majority is required), Two Hills, Wainwright, Ponoka and Medicine Hat. Well over 50 per cent of the population voted in favour of fluoridation in all these communities except Medicine Hat.

F.D.I. Reports on Fluoridation Around the World

An international fluoridation inventory made by the Fédération Dentaire Internationale reveals that in 1963 controlled fluoridation of community water supplies was in operation or planned in 41 countries.

Over 71 million people are drinking water to which fluorides are added to reduce tooth decay, the F.D.I. reports. Fluoridation progress is also supported by national government policy in many countries and by the national dental associations in the majority of countries.

"Fluoridation around the world" by G. H. Leatherman, F.D.I. secretary general, and Joan Ellis was published in the *International Dental Journal*, June 1964.

Countries leading in fluoridated communities in 1963 are: United States, 2,519, Canada 202, Brazil 58, Chile 28, Netherlands 15, Australia 7, Colombia 7, Sarawak 5, New Zealand 4, Mexico 3, Panama 3, Great Britain 2 and Switzerland 2.

In Puerto Rico and in Hong Kong fluoridated water supplies serve the entire population.

Countries with at least one operating fluoridation project are: South Africa, Aruba, El Salvador, Guatemala, Paraguay, Peru, Venezuela, Belgium, Finland, Rumania, Sweden, China (Taiwan) and Japan.

Countries where fluoridation is planned are: Argentina, Costa Rica, Curaçao, Bulgaria, Egypt, Ireland, Northern Ireland, Poland, Yugoslavia and Ceylon.

Legislation permitting water fluoridation has been enacted in Great Britain, the Republic of Ireland, the Philippines and Sweden. New Zealand has set up a national fluoridation committee to encourage, advise and assist local authorities. Other countries with government support

of fluoridation are Taiwan, Colombia, Czechoslovakia, Guatemala, Israel, Korea, Panama, Sarawak, and the United States.

The majority of national dental associations have adopted official policies in favour of fluoridation, the F.D.I. reports. In 1962 the list was joined by the All Union Scientific Medical Association of Stomatologists of the U.S.S.R. which adopted a resolution urging the establishment of pilot studies on water fluoridation.

Major obstacles to fluoridation include the lack of piped water supplies and various technical difficulties. Economic problems include the lack of funds or the lack of hard currency to import equipment and chemicals from hard currency areas.

Leatherman and Ellis point out that "in regions such as Africa and Latin America where sanitation and poor nutrition constitute grave problems, water fluoridation is well down the list of priorities."

Opposition of anti-fluoridationists is found chiefly in the well developed areas. "Much of this is motivated by political, emotional or religious reasons," the report states.

"'Mass medication' and 'interference with the liberty of the individual' which are frequently occurring phrases in anti-fluoridation literature seem to arouse stronger feelings in the public than any appeal to the value placed by the individual on improving his health."

Birmingham Starts Fluoridation

Birmingham recently became the first British city to start regular fluoridation of its water supplies. Birmingham is the second largest city in England with a population of 1,270,000. Earlier fluoridated communities were pilot projects.

Fluoridation Spreads in Europe

Fluoridation of drinking water is slowly but surely being adopted in most European countries. In 1962 there were 18 communities using fluoridated water, serving a million people. This represented an increase of 293,000 or 42 per cent over the period 1952 to 1961, when only 683,000 received fluoridated drinking water.



W. C. King of Halifax, Nova Scotia, was recently appointed director of dental health for the Nova Scotia Department of Health. He succeeds W. G. Dawson.

It is estimated that in the next two years the number will triple.

Eight communities are reported to be preparing for fluoridation. They are Dublin, Ireland; Belgrade, Fiume (Rijeka) and Split, Yugoslavia; Amsterdam, Groningen and Rotterdam in The Netherlands; and Murmansk in the Soviet Union. Two to four towns in the German Democratic Republic are considering starting fluoridation and in the Soviet Union, fluoridation of drinking water has been approved in three additional communities. Similar trends are reported in England, Norway and Hungary.

No negative reports have emanated from the fluoridating communities but there has been a high reduction in caries which will likely speed up the extension of fluoridation in Europe.

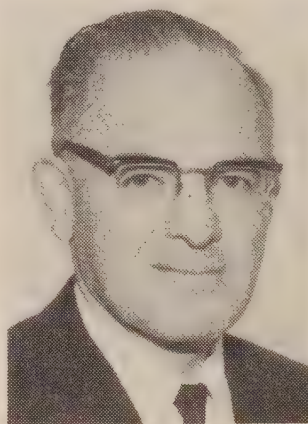
Public Health

Shapera Joins Manitoba Dental Services

C. G. Shapera, Winnipeg, has joined the Manitoba Health Department as regional dental director for No. 3 Area. Announcing the new appointment, provincial dental director C. H. McCormick noted that Dr. Shapera will assume responsibility for dental activities in health units at Stonewall, Selkirk and Red River (Steinbach), and unorganized territory in southeastern Manitoba.

A native of Winnipeg, Dr. Shapera is a 1941 dental graduate of the University of Minnesota. During the war he served with the Canadian Dental Corps in Canada and overseas. After the war Dr. Shapera

returned to Manitoba where he practised in Sherridon, Flin Flon and latterly, in Winnipeg.



C. G. Shapera

Feasby Heads Ontario P. H. Dentists

R. E. Feasby, assistant director of dental services, Toronto Department of Public Health, was elected chairman of the Ontario Association of Public Health Dentists at a meeting held in Toronto, September 14, 1964. Other officers elected were F. A. Kohli, Toronto, secretary, and B. P. Martinello, Cooksville, representative to the Dental Public Health Committee of the Ontario Dental Association.

Awards and Honours

P. G. Anderson of Toronto was chosen president-elect of the American College of Dentists at its recent session in San Francisco. Dr. Anderson is a past president of the Canadian Dental Association and currently a member of the Steering Committee studying the Report of the Royal Commission on Health Services.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Hazard of Retained Roots

To the Editor:

On April 8, 1964, I saw a 42 year old female patient who was referred by an ear, nose and throat specialist. The patient was partially deaf, her hearing having been impaired in childhood. She had suffered for some time from pain in her lower right jaw. This pain radiated to the back of her ear, to the back of the maxillary region, and down

the neck. Pain sometimes radiated to her hands. This led her to believe that she was suffering from rheumatoid arthritis. The patient's physician could not locate the cause of the pain. He referred her to the ear, nose and throat specialist who, in turn, referred her to me for radiographic investigation of the lower right molar region.

The patient had been edentulous for the past 13 years and wore complete upper and lower dentures. Radiographs disclosed the presence of two roots in the lower right first molar region. I removed these roots and inserted two sutures. On April 13 the sutures were removed. I saw the patient again on May 1. Healing was complete and she stated that she had none of the facial pains which she had experienced previously for many years. On October 17, six months after removal of the roots, the patient again reported that she felt well.

I conclude that the retained roots caused the facial pain. The dentist has a moral and legal obligation to inform his patient if a root is left following the removal of a tooth. Thus, if any symptoms develop subsequently, the patient may be spared unnecessary pain and discomfort.

I. F. Goodin, B.D.S. (Edin.), D.D.S.,
Camp Petawawa, Ont.

Approbation du Journal de novembre

M. le rédacteur:

Laissez-moi vous féliciter pour la belle tenue de votre revue qui s'améliore de jour en jour. Le numéro de novembre est magnifique. Continuez votre beau travail.

Paul Geoffrion,
Professeur à l'Université de Montréal.

Restorative Dental Materials

F. A. Peyton, ed. Ed. 2. St. Louis, C. V. Mosby Co., 1964. 543 p. Illus. \$11.35

As the author states, the teaching of the subject of restorative materials to dental students should have as the first objective the training of qualified practitioners of clinical dentistry.

The outline of contents is excellent in this edition, including, as it does, the history of dental materials, applied fundamental principles such as the structure of matter, physical and chemical properties, and biophysical application of materials in general.

Subsequent chapters then go into detail on the particular materials themselves. These chapters are excellent for the beginning dental student as the subject matter is presented in a way that is easily grasped. Useful matter is also presented that is of great benefit to experienced practitioners.

The illustrations in this second edition have been greatly improved and newer materials, such as the rubber base impression materials, are dealt with very thoroughly. The newer concepts on the uses of cements also comprise a very interesting chapter.

This new edition is a very valuable addition to the dental literature.

C. G. Duke

1964 Supplement to 1964-66 Annotated Guide to Health Instruction Materials in Canada

School Health Committee of the Canadian Health Education Specialists Society. Ottawa, 1964, \$0.25

Since the publication of the 1964-1966 *Annotated Guide to Health Instruction Materials in Canada* (reviewed in the March 1964 *Journal*), the School Health Committee of the Canadian Health Education Specialists Society has continued to keep abreast of new developments in the field of health education literature. The original Guide, which lists over 600 such publications, has become a popular reference for the teachers and public health workers engaged in health education. The Guide is presently used by several teachers colleges, school systems and thousands of health teachers across Canada.

To extend the usefulness of this Guide, the School Health Committee has published a supplement which lists over 50 health publications suitable for instructional purposes.

The supplement is organized in the same way as the Guide, with materials reviewed under three broad headings — physical health, mental health, and social development. These headings are further subdivided according to subject area and topic. All materials are listed in alphabetical order by title, and each entry includes a brief description of the content, as well as information on grade applicability, cost (if any) and source.

The 1964 supplement is only practical if used with the Guide proper in which most of the addresses of sources have been listed. The Guide and the 1964 supplement are only available from the Canadian Health Education Specialists Society, P.O. Box 2305, Postal Station D, Ottawa, Ontario.

Michael Palko

Periodontal Therapy

H. M. Goldman, Saul Schluger, Lewis Fox and D. W. Cohen, Ed. 3. St. Louis, The C. V. Mosby Company, 1964. 898 p. Illus. \$20.55

This is an excellent textbook for the general practitioner and an interesting résumé for the periodontist. Its good organization and simple style would facilitate translation into other languages.

The text contains a generally complete classification of periodontal disease and its direct and associated causes. It begins with a description of the normal periodontium, its anatomical variations and its physiological relationship to function. Scientific explanations are offered for some periodontal phenomena, while others, such as temporomandibular joint problems, require further study for diagnostic and prognostic purposes.

The authors stress the importance of observation during initial and post-treatment recall examinations. "One cannot treat what does not exist, and for the casual observer there is much that does not appear to exist," they explain.

Variations in the rate of calculus formation and in the ease of its removal are explained in terms of different attachments

between calculus and cementum. Periodontal examination and charting are described in some detail. The commonest early clinical sign of periodontal disease — loss of stippling — is not illustrated, however. This may be due to photographic difficulties.

The chapter on prognosis mainly deals with conditions that have a doubtful outcome. Some consideration is given to patients that require complex restorations supported by teeth whose prognosis is questionable. The older the patient, the better is the prognosis, the authors contend. But their explanation in support of this claim is inadequate.

Much of the book is devoted to periodontal therapy. The chapter on scaling and curettage contains a simple but adequate list of instruments with many illustrations of their application. The description of subgingival curettage is supplemented with excellent drawings by Robert Ullrich.

Surgical procedures are treated in detail. Instrument lists are simple and adequate. Many cases of gingivectomy are illustrated. Emphasis is on the angulation of the initial incision and the importance of contour. Rotary instruments are advocated for contouring in osteoplasty and ostectomy. The authors favour the internal bevelled flap incision where tissue can be replaced over healing bone, eliminating the use of dressings that might irritate the bone.

Mucobuccal surgery is mainly concerned with apically and laterally repositioned flaps. A prominent labial fraenum is lanced and dissected but no mention is made of lengthening the muscle.

Several formulae for periodontal packs are given, with and without eugenol.

The chapter on occlusion is disappointing for two reasons. Firstly, it is preceded by chapters on surgery, splinting, orthodontic procedures and several others. This could be misleading in that it is generally best to correct all causes of improper occlusion prior to the institution of specific remedial procedures. Secondly, the entire occlusal problem is summed up under the heading of occlusal traumatism; no distinction is made between traumatic and traumatogenic occlusion.

The importance of operative and prosthetic dentistry to the success of periodontal therapy is pointed out clearly. Of particular interest is the insistence on good contact points between teeth. Teeth with good contact points support one another.

An entire chapter is devoted to therapeutic splinting.

On the subject of general health, the authors observe that patients are sometimes unaware of the presence of a systemic condition or even a terminal disease. Consultation with the patient's physician may be of great assistance.

The final chapter deals with oral physiotherapy. Several methods of massage brushing are described and illustrated.

J. Charlotte Whitney

Syndromes of the Head and Neck

R. J. Gorlin and J. J. Pindborg. *New York and Toronto, McGraw-Hill Co. of Canada Ltd., 1964. 580 p. Illus. \$23.15*

This textbook is dedicated "to those who treasure the exceptional." A preface by V. A. McKusick quotes William Harvey (1657, noted physiologist and early proponent of the circulatory system theory): "Nature is nowhere accustomed more openly to display her secret mysteries than in cases where she shows traces of her workings apart from the beaten path, nor is there any better way to advance the proper practices of medicine than to give our minds to the discovery of the unusual law of nature by careful investigation of cases of rarer forms of disease." This theme is carried out throughout the book.

Each of the 103 chapters is devoted to a single syndrome. The text is well written and illustrated. An extensive bibliography follows each chapter.

Systemic and oral manifestations and differential diagnosis are discussed for each syndrome. Laboratory aids to diagnosis are given when known. The index is useful in relating signs and symptoms to the various syndromes. There is no discussion of treatment for any of the syndromes.

One cannot help but be impressed by the monumental and tedious task undertaken and completed by the authors. They have searched, reviewed, correlated and documented information from the dental and medical literature of many countries in order to present the many syndromes described.

Readers who have a good working knowledge of the more common pathological changes encountered about the head and neck and who are ready to investigate the rare and the unusual will find this text interesting. The book could be a useful addition to the reference library of the academic clinician, the clinical researcher and the oral pathologist.

R. H. Bingham

Mechanisms of Hard Tissue Destruction

R. F. Sognnaes. *Washington, American Association for the Advancement of Science, 1963. 776 p. Illus. \$13.00*

This book, consisting of 26 chapters by 48 authors and co-authors, examines the decalcification of a wide variety of biological mineralized structures ranging from those in marine and subterranean organisms to those in man. It is based upon a symposium held in December 1962 by the Dental Section of the American Association for the Advancement of Science. The book covers a wide range of situations in which destruction of mineralized tissues occurs but, unfortunately, does not except in a few instances come to grips with actual mechanisms as one

might have expected from the title. The title of the book in this reviewer's opinion is a misnomer. Perhaps it should have been 'Hard Tissue Destruction in Biological Systems' or 'Comparative Aspects of Hard Tissue Destruction' more in keeping with its companion predecessor *Calcification in Biological Systems*.

The major weakness of the book is that it is far too long for the information it contains. This seriously detracts from its value, which is unfortunate since several of the contributions are of high standard and worth reading. Although the book as a whole is somewhat disappointing it can be recommended for selective reading and reference.

The book runs to approximately 700 pages, is well printed on good quality paper with excellent photographic reproductions, but for its weight, it is too lightly bound.

I. Kleinberg

Swenson's Complete Dentures

C. O. Boucher, ed. Ed. 5. St. Louis, The C. V. Mosby Company, 1964. 798 p. Illus. \$14.00

The latest edition of this well-known textbook represents the expression of the practical experience gained in over three decades of prosthodontic endeavour. The editing and revisions of Dr. Boucher have produced an extremely comprehensive and up to date guide in this subject. It may be truly stated that all phases of complete denture prosthesis are dealt with in a most knowledgeable manner and only techniques of proven practical value are included in this treatise.

In addition to technical material, the philosophy of the entire approach to patient rehabilitation by complete prosthesis is sound and impressive. The 800 pages are well supplemented by 850 illustrations of which ten are in colour.

To the reader, whether he be a student or a graduate dentist, it provides a most reliable approach to the understanding and application of sound principles in complete prosthodontics.

E. P. Downton

Embryologie et développement bucco-facial

A. Mugnier. Paris, Masson et Cie, Julien Prêlat, 1964. 302 p. Illustré. Fr. 48.

Le livre de Mugnier a été préparé comme une introduction à la stomatologie infantile. C'est un ouvrage qui vient combler un vide dans le domaine d'embryologie et de développement bucco-facial.

Ce travail de synthèse est divisé en quatre parties ou chapitres: généralités, notions fondamentales, stomatogénèse, odontogénèse et

croissance de la face. Ces quatre chapitres forment une continuité logique d'idées et de sujets qui facilitent la compréhension au lecteur, surtout d'un sujet tel que l'embryologie.

Dans la première partie, la clarté et la simplicité des schémas en trois dimensions et en couleur facilitent la compréhension des processus d'invagination et d'évagination même à l'œil et l'esprit du profane en la matière. Le schéma d'œuf ouvert au niveau des deux vésicules et la formation du tube neural en sont de bons exemples.

Le deuxième chapitre est divisé en deux parties: la formation des parties molles et la formation du squelette facial. Dans ce chapitre, on trouve des schémas et des tableaux qui résument les conséquences pathologiques des défauts de malformations. L'étudiant saisit du même coup l'aspect pratique et clinique de ses études en embryologie. C'est aussi un rappel pour le clinicien qui en connaît les manifestations pathologiques, mais qui en a oublié les origines.

Un tableau assez complet nous donne d'une façon synthétique l'origine des malformations comme des fistules, des tumeurs congénitales, des fissures palatines, labiales etc.

L'auteur discute dans ce deuxième chapitre, de l'embryogénèse de chaque structure faciale et buccale. Cette description intéresse le chirurgien maxillo-facial qui doit avoir des notions sur la formation de la boule de Bichat, et l'étudiant en chirurgie dentaire qui doit connaître la formation de l'articulation temporo-maxillaire, de la branche montante de la mandibule et de l'épine de Spix.

La troisième partie, comme le dit l'auteur lui-même, ne fait qu' "effleurer la partie histologique et histochimique de l'odontogénèse, ne conservant que les grandes lignes." Mais même la description et l'illustration de ces "grandes lignes," comme la dentinogénèse et l'amélogénèse sont si claires qu'on prend goût à lire la suite des idées. Comme conclusion, on a toujours quelques mots sur la pathogénèse, comme par exemple les kystes pararadiculaires, suite des débris épithéliaux.

Le quatrième chapitre renferme un synopsis de la croissance de la face, du crâne et de l'éruption des dents. L'auteur fait une comparaison entre l'âge osseux et l'âge dentaire. L'âge osseux est un concept que tout praticien en orthopédie maxillo-faciale doit posséder; Mugnier, dans son livre d'embryologie et de développement bucco-facial, a su lui donner la place qu'il mérite.

L'addition de quelques illustrations de télé-radiographies, de tracés et de schémas illustrant les points anthropométriques montrent au lecteur la corrélation qui existe entre ces différentes disciplines.

Le spécialiste en orthopédie dento-maxillo-faciale, grâce au caractère synthétique du volume, peut suivre facilement l'évolution embryonnaire des organes qu'il doit traiter; l'exposé de cette évolution part de la cellule primitive en passant par l'embryon et le fœtus pour se rendre jusqu'à la phase adulte.

L'auteur doit être félicité pour la richesse de sa bibliographie, qu'il a divisée de la même manière que les chapitres de son livre. Il y a ajouté deux autres sections sur la génétique et les embryopathies faciales.

Comme le prof. M. Fèvre le dit dans sa préface, ce livre peut être recommandé aux chirurgiens d'enfants, aux oto-rhino-laryngologistes, aux médecins, aux spécialistes en orthopédies maxillo-faciale et enfin aux étudiants en médecine et en dentisterie. En attendant son volume sur la stomatologie infantile, monsieur Mugnier doit être remercié pour sa précieuse contribution au domaine de l'embryologie et du développement facial.

A. Demirjian

Historia de la Odontología y su Ejercicio Legal (History of Dentistry and Legal Dental Practice)

Salvador Lerman. Ed. 2. Buenos Aires, Editorial Mundi, 1964. Illus. 457 p. \$20.00

This reviewer is happy to have been given the opportunity of reviewing this book. The task was difficult because his knowledge of Spanish has deteriorated during the past 25 years. It has, however, been a most gratifying venture.

Dr. Lerman has certainly done extensive research and study to produce such a well documented work. He has also demonstrated great talent and ability. We extend to him sincerest congratulations.

The book is written in six parts and comprises 42 chapters. The author does not confine himself to a history of dentistry in his native Argentina. His is a complete and unique book dealing with the history of dentistry on a world-wide basis.

The book starts with prehistoric and ancient times. We are given an insight into the art as it was practised in China, Japan, India, Egypt, and by the Jews, the Greeks and the Romans. The author then brings us to the Middle Ages, and we read about

Arabia, France, Spain, England, Germany, Russia, and so forth. In Part 4 we read about dentistry in the Americas. Brazil, Canada, Colombia, Cuba, Ecuador, Guatemala, Mexico, Peru, and the U.S.A. are included.

Chapter 25 deals with dentistry in Canada. This chapter is only about ten pages long and one gets the impression that it can hardly be adequate. However, the author does point out that dentistry's development in Canada has simulated that in the U.S.A. He gives an outline of dental education and the development of the dental schools in Canada. We encounter the names of J. B. Wilmott, Luke Teskey, H. D. Ross, P. Hamel, H. Box, A. J. McDonagh, and so forth. Dr. Lerman deals with each province separately, and Quebec receives the greatest coverage. There is a review of the different dental associations, societies and academies in our country. Dr. Lerman also mentions several of our journals and periodicals, and he deals briefly with legal aspects of Canadian dentistry.

The fifth part comprising chapters 33 to 39 deals with the recognized specialties (oral surgery, orthodontics, periodontics) and also with specific areas such as operative dentistry and radiology. One chapter is devoted to anaesthesia and one to hypnosis. Dentistry's legal and moral rights and its responsibilities in oral surgery, anaesthesia and radiology are logically and succinctly expressed.

The final part of the book is interesting in that it devotes one chapter to women in dentistry. The first woman who graduated from a dental school was Lucy B. Hobbs. She experienced severe discrimination and humiliation from the male members of the Ohio Dental College, Cincinnati, before she graduated in 1866. Dr. Hobbs practised for about 60 years.

This book represents a true history of dentistry. Translated into English, it would make very interesting and enlightening reading for our leisure hours.

A. A. Antoni

Erratum. — A news item on p. 802 of the December Journal wrongly stated that the proposed new dental school at the University of Western Ontario will provide places for 400 additional dental students. The correct figure is 160-200 additional students.

Additions • Acquisitions

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FISH, Sir E. W. Principles of full denture prosthesis. Ed. 6. London, Staples Press, 1964. 133 p. illus. \$8.00

FROST, J. C. Your future as a dental assistant. New York, Richards Rosen Press, Inc., 1964. 127 p. \$3.25

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HIRSH, B. D. Business management of a medical practice. St. Louis, Mosby, 1964. 190 p. \$8.40

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OLSEN, N. H. The family dentist and injured teeth in children. (Practical Dental Monographs, Sept. 1964.) 29 p. illus.

PEYTON, F. A., and others. Restorative dental materials. Ed. 2. St. Louis, Mosby, 1964. 543 p. illus. \$11.35

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in memoriam

RALPH BENSON ARCHIBALD—Dr. R. B. Archibald of Vancouver, British Columbia, died on October 16, 1964, at the age of 70. Born in Memramcook, New Brunswick, in 1894, Dr. Archibald graduated from the North Pacific Dental College, University of Oregon, in 1924. He practised in Langley, British Columbia, before going to Vancouver. Besides his wife, Mae, Dr. Archibald is survived by one son, one daughter and three grandchildren.

ROMEO BEAUDRY—Le Dr Romeo Beaudry de Trois-Rivières, P. Qué., est décédé le 26 août 1964, à l'âge de 64 ans. Il était né à Trois-Rivières en 1900 et obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1924.

FREDERICK WILLIAM BROWN—Dr. F. W. Brown of Westmount, P. Quebec, died in February 1964. He was 90. Dr. Brown was born in Danville, P. Quebec, in 1873 and graduated from Bishops University in 1896. He was an honorary member of the College of Dental Surgeons of the Province of Quebec.

ROY ARTHUR CASSON—Dr. R. A. Casson of Truro, Nova Scotia, died on October 16, 1964. He was 71. Dr. Casson was born in Truro in 1893 and graduated from Baltimore College of Dental Surgery, University of Maryland, in 1915. Dr. Casson was an honorary member of the Nova Scotia Dental Society.

ARTHUR ALMON DILL—Dr. A. A. Dill of Windsor, Nova Scotia, died on August 16, 1964. He was 85. Dr. Dill was born in Windsor in 1879. He graduated from the University of Maryland in 1906 and specialized in prosthodontics.

ROBERT DUNSMORE — Dr. Robert Dunsmore of Stonewall, Manitoba, died on September 2, 1964, at the age of 86. He was born in Ontario in 1877 and obtained his early education at Brandon College, Manitoba. After graduating from Loyola University, Chicago, he obtained his licence to practise in Manitoba in 1913. Dr. Dunsmore practised in Virden, Neepawa and

St. James, Manitoba, moving to Stonewall in 1958 when he retired. Surviving Dr. Dunsmore are two daughters, Mrs. H. Shepherd and Mrs. A. B. Calderwood, and three grandchildren.

THOMAS ARTHUR FISHER—Dr. T. A. Fisher of Toronto died on October 23, 1964. He was 28. Dr. Fisher was born in Arnprior, Ontario, in 1936 and graduated from the University of Toronto in 1960. He is survived by his wife, Theresa; his mother and father, Mr. & Mrs. John Fisher of Renfrew, Ontario; and one brother, Frank of Montreal.

ALEXANDER ALLAN FYFE—Dr. A. A. Fyfe of Toronto died on October 6, 1964, at the age of 59. Born in Toronto in 1905, Dr. Fyfe graduated from the University of Toronto in 1929. He is survived by his wife, Marion, and two sisters, Mrs. M. A. Hare and Mrs. D. B. McNamara.

CLAUDE GERMAIN — Le Dr Claude Germain de Mont-Laurier, P. Québec, est décédé le 16 octobre 1964 à l'âge de 36 ans. Il était né à Montréal en 1928 et obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1951.

FRED EMERSON HUMPHREY — Dr. F. E. Humphrey of Burlington, Ontario, died on September 16, 1964. He was 71. Dr. Humphrey was born in Troy, Ontario, in 1893. He received his early education in Brantford, Ontario, and graduated from the Royal College of Dental Surgeons of Ontario in 1916. He practised in Guelph, London and Burlington and was an examining dentist for schools in Halton County. During World War I he served with the Canadian Army Dental Corps. Besides his wife, Evelyn, Dr. Humphrey is survived by one son, Harold; a daughter, Mrs. P. Hollingdale; one brother, one sister and five grandchildren.

OLIVER SPROULE KERR — Dr. O. S. Kerr of Cobourg, Ontario, died on August 29, 1964. He was 62. Dr. Kerr was born in Cobourg in 1902 and graduated from the University of Toronto in 1927.

SANGSTER LEDERMAN—Dr. S. Lederman of Kitchener, Ontario, died on July 27, 1964, at the age of 81. He was born in New Hamburg, Ontario, and graduated from the Royal College of Dental Surgeons of Ontario in 1910.

WALTER E. LUNDY—Dr. W. E. Lundy of Toronto died on October 30, 1964. He was an honorary member of the Royal College of Dental Surgeons of Ontario from where he had graduated in 1896. Dr. Lundy is survived by his wife, Jessie, and a nephew, Harold Lundy of Ottawa.

WILLIAM HERBERT McDONALD — Dr. W. H. McDonald of Toronto died on September 25, 1964 at the age of 77. He was born in Waterloo County, Ontario, in 1886. Dr. McDonald obtained his early education at Galt High School and graduated from the Royal College of Dental Surgeons of Ontario in 1911. He was a life member of the R.C.D.S. Dr. McDonald is survived by his wife, Mary, and a sister, Jean McDonald of Galt.

CHARLES BURRISS McMANUS—Dr. C. B. McManus of Halifax, Nova Scotia, died on October 5, 1964. He was 85. Dr. McManus was born in Memramcook, New Brunswick, in 1878. A 1900 graduate of Philadelphia Dental College, Dr. McManus was an honorary member of the Nova Scotia Dental Association.

ROBERT ARTHUR NEWLOVE—Dr. R. A. Newlove of Calgary, Alberta, died on August 29, 1964. He was 68. Dr. Newlove was born in Nottawasaga, Ontario, in 1896. He graduated from the Royal College of Dental Surgeons of Ontario in 1924. He was a veteran of both World War I and World War II. Following graduation Dr. Newlove established a practice in Raymond, Alberta, moving later to Lethbridge, where he remained until 1960.

PERCY WILSON PEAREN — Dr. P. W. Pearen of Toronto died on September 19, 1964, at the age of 69. He was born in Ottawa in 1895 and graduated from the Royal College of Dental Surgeons of Ontario in 1923. Dr. Pearen established a practice in Toronto before going to Schomberg and Acton, Ontario. He later returned to Toronto where he remained until the time of his death. Dr. Pearen served with the Canadian Infantry Battalion during World War I and with the Canadian Dental Corps during World War II. Besides his wife, Florence, Dr. Pearen is survived by a son, Robert, and a grandson, Gary.

JEAN PELLETIER—Le Dr Jean Pelletier de Ste-Favie, P. Qué., est décédé le 13 août

1964, à l'âge de 63 ans. Il obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1927.

HENRY OSCAR RICHARDSON—Dr. H. O. Richardson of Campbellford, Ontario, died on August 11, 1964, at the age of 92. He was born in North York, Ontario, in 1872. In 1903 he went to Campbellford where he practised until 1946 when his practice was assumed by his sons, Dr. R. F. Richardson and the late Dr. Lloyd G. Richardson. Dr. Richardson is survived by three sons, Ronald of Hanover, Judge Harry E. Richardson of Lindsay and Ross F. of Port Hope; one daughter, Mrs. A. K. Loucks of Campbellford; and 11 grandchildren.

WALTER VERNIER RONDEAU—Dr. W. V. Rondeau of Southey, Saskatchewan, died in September 1964. He was 73. Dr. Rondeau was born in Sudbury, Ontario, in 1891. He received his early education at the French Institute, Pointe-Aux-Trembles, P. Quebec, and graduated from Laval University in 1915. In 1917 Dr. Rondeau went to Saskatchewan where he established a practice at Rouleau, moving to Southey in 1950. He retired in 1964. During World War II he served as a captain in the Royal Canadian Dental Corps. He was a member of the Regina Dental Society. Dr. Rondeau is survived by his wife; two sons, Malcolm and Dr. Paul; 10 grandchildren; his step-mother, Mrs. Samuel Rondeau; and a step-sister, Olga.

COLIN IRWIN TREADWELL—Dr. C. I. Treadwell of Toronto died on October 11, 1964. He was 73. Dr. Treadwell was born in St. Thomas, Ontario, in 1891. He received his early education in Belleville, Ontario, and graduated from the Royal College of Dental Surgeons of Ontario in 1930. Dr. Treadwell is survived by his wife, Katherine.

JAMES LEONARD WALSH — Dr. J. L. Walsh of Kingston, Ontario, died on September 16, 1964. Following graduation from the Royal College of Dental Surgeons of Ontario in 1915 he practised in Kingston for more than 40 years, first in private practice and later, from 1945 until 1961, at the Ontario Hospital in Kingston. Dr. Walsh is survived by his wife, Bessie, and two daughters, Mrs. J. D. McDougall of Ottawa and Mrs. H. A. Bloome of Windsor.

JOHN McLEOD WILKINSON—Dr. J. M. Wilkinson of Napanee, Ontario, died on October 27, 1964. He was 64. Dr. Wilkinson was born in Cheltenham, Ontario, in 1900 and graduated from the Royal College of Dental Surgeons of Ontario in 1922. Surviving are one son, James, and two daughters, Nancy of Napanee and Mrs. D. Bourette of Centralia.

canadian dental association
retirement savings plan



Quarterly report

November 30, 1964

	<i>Amount Invested</i>	<i>Market value</i>	<i>Unit value</i>
Government Bond Fund	\$ 398,177	\$ 407,475	\$13.303
Corporate Bond Fund	735,628	743,069	14.009
Common Stock Fund	1,877,984	2,318,031	18.955
	<u>\$ 3,011,789</u>	<u>\$ 3,468,575</u>	

- ▶ Average Individual Contribution in 1963: \$1,324.
- ▶ Benefits of the plan: (1) Contributions are tax deductible; (2) Diversification through three funds; (3) Protects your retirement savings dollars against inflation.
- ▶ Investment Manager: The Royal Trust Company.
- ▶ For further information please complete and mail this coupon:

CANADIAN DENTAL ASSOCIATION
PENSION AND INSURANCE PLANS
2249 Yonge Street
Toronto 7, Ontario

Please send me information on the Canadian Dental Association Retirement Savings Plan.

Name _____

Address _____

- ▶ Sponsored by the Canadian Dental Association for its members.

plan d'épargne-retraite
association dentaire canadienne



Rapport trimestriel

le 30 novembre 1964

	Montant investi	Valeur au marché	Valeur unitaire
Fonds d'obligations gouvernementales	\$ 398,177	\$ 407,475	\$13.303
Fonds d'obligations corporatives	735,628	743,069	14.009
Fonds d'actions ordinaires	1,877,984	2,318,031	18.955
	<u>\$ 3,011,789</u>	<u>\$ 3,468,575</u>	

- Cotisation individuelle en 1963: \$1,324.
- Avantages du régime: (1) La déduction des cotisations de l'impôt; (2) La diversification qu'assurent les trois fonds; (3) La protection de vos épargnes contre l'inflation.
- Administrateur des placements: Trust royal.
- Pour tous renseignements, veuillez remplir et poster ce coupon.

PLANS D'ASSURANCE ET DE RETRAITE DE
L'ASSOCIATION DENTAIRE CANADIENNE
2249 rue Yonge
Toronto 7, Ontario

Veuillez me faire parvenir des renseignements sur le régime d'épargne-retraite de l'Association dentaire canadienne.

Nom _____

Adresse _____

- Commandité par l'Association dentaire canadienne à l'intention de ses membres.



WELCOME TO
BIENVENUE À

QUÉBEC

64th ANNUAL MEETING
CANADIAN DENTAL ASSOCIATION
MAY 30 TO JUNE 2, 1965

64ième CONGRÈS ANNUEL
DE L'ASSOCIATION DENTAIRE CANADIENNE
DU 30 MAI AU 2 JUIN 1965



PRESIDENT'S MESSAGE

MESSAGE DU PRESIDENT

Canadian dentists face new and far-reaching social measures. They must therefore close ranks and prepare to discuss with the proper authorities those measures which affect the dental health of our fellow citizens. Unity and harmony within the profession are necessary prerequisites to such action. There is no better way of achieving this end than by attending the Canadian Dental Association's convention in record numbers. I welcome you to the 1965 national convention, to be held under the auspices of La Société Dentaire de Québec, at the Château Frontenac from May 30 to June 2.

A l'aube d'une ère nouvelle engendrée par les mesures sociales qui nous sont présentées, nous devons nous grouper et nous préparer à dialoguer avec les autorités compétentes. Pour ce faire, nous devons d'abord créer au sein de notre profession l'harmonie et l'unité la plus parfaite. Nous y arriverons, confrères canadiens, en venant nombreux assister au Congrès de l'Association dentaire canadienne tenu sous les auspices de la Société dentaire de Québec au Château Frontenac du 30 mai au 2 juin.

REMY LANGLOIS, President - Président

GENERAL INFORMATION • RENSEIGNEMENTS

Board of Governors Meeting

The annual meeting of the Board of Governors of the Canadian Dental Association will be held at the Château Frontenac Hotel, Quebec City, beginning at 9.30 a.m., on Wednesday, May 26 and continuing through Saturday, May 29, 1965. The meeting is open to all members of the Association who are urged to attend and participate in the deliberations.

National Convention

The national convention of the Canadian Dental Association will be held in the Château Frontenac Hotel, Quebec City, beginning Sunday, May 30 and continuing through Wednesday, June 2, 1965.

Arts and Handicraft Exhibit

All dentists, the members of their families, and their employees are invited to submit exhibits for display at the Canadian Dental Association Arts and Handicrafts Exhibit in the Château Frontenac, May 30-June 2. Paintings, sketches, photographs, sculpture, ceramic art and other handicrafts are welcomed. Entry forms and other

Réunion du Bureau des Gouverneurs

La réunion annuelle du Bureau des Gouverneurs de l'Association dentaire canadienne aura lieu au Château Frontenac de Québec du 26 au 29 mai 1965. Tous les membres de l'A.D.C. peuvent assister à ces assemblées et prendre part aux délibérations; les dirigeants de l'Association les y invitent avec instance.

Congrès National

Le congrès national de l'Association dentaire canadienne aura lieu au même hôtel et commencera dimanche, le 30 mai, pour se terminer mercredi, le 2 juin.

REMY LANGLOIS, President — Président

W. G. McINTOSH, Secretary — Secrétaire

Exposition d'art et d'artisanat

Tous les dentistes, les membres de leur famille et leurs employés sont invités à faire parvenir leurs travaux à l'exposition d'art et d'artisanat de l'Association dentaire canadienne. Cette exposition aura lieu au Château Frontenac du 30 mai au 2 juin. On recevra avec plaisir des peintures, des dessins, des photographies, des sculptures, des

information may be obtained by writing to Dr. D. P. McGibbon, 990 avenue des Erables, Québec 6, P. Qué.

céramiques et des travaux d'artisanat. On peut se procurer des formules d'inscription et d'autres renseignements en s'adressant au Dr D. P. McGibbon, 990 avenue des Erables, Québec 6, P. Qué.

Clip and mail to: / découper et poster au:
Dr D. P. McGibbon, 990 avenue des Erables, Québec 6, P. Qué.

Art Exhibit • Exposition d'art

I intend to forward the following items for display / J'ai l'intention de vous faire parvenir les articles suivants, pour exposition:

- 1. _____
- 2. _____
- 3. _____
- 4. _____

Exhibitor _____
Exposant _____

Address _____
Adresse _____

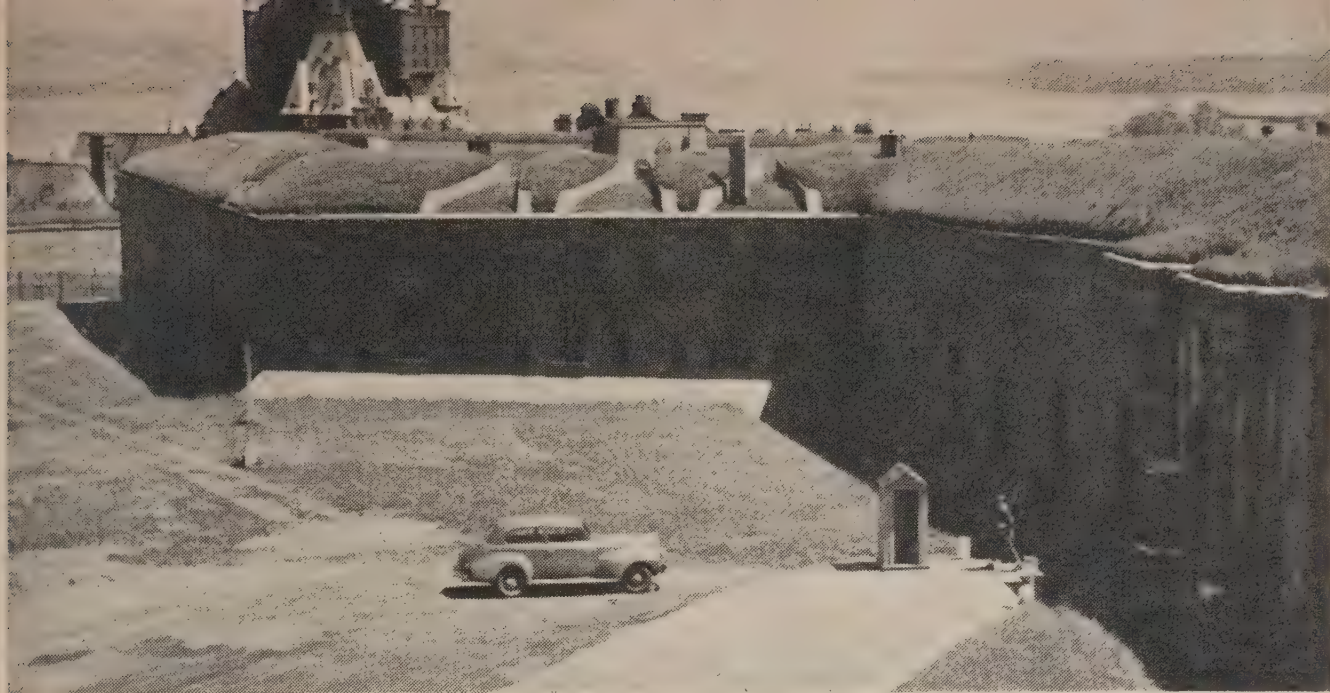
Accommodation

The Château Frontenac will be the convention centre. Other nearby hotels and motels — Auberge des Gouverneurs (Congress Inn), Holiday Inn, Motel des Laurentides, Clarendon Hotel, Château Laurier — also offer convenient modern accommodation.

Logement

Le Château Frontenac sera le siège du congrès. D'autres hôtels et des motels modernes, situés à proximité, — Auberge des Gouverneurs (Congress Inn), Holiday Inn, Motel des Laurentides, Hôtel Clarendon, Château Laurier — peuvent loger les congressistes.





Registration

Complete this form and mail with the registration fee to Canadian Dental Association Convention, 1160 avenue des Erables, Québec 6, P. Qué. Make cheques payable to 'C.D.A. 1965 Convention.' Registration fee, \$40 (single), \$10 (wife). Early registration is most desirable and will be greatly appreciated. Reserved accommodation will be confirmed directly from a hotel or motel.

Inscription

Remplir cette formule et la poster avec les frais d'inscription à: Congrès de l'Association dentaire canadienne, 1160 avenue des Erables, Québec 6, P. Qué. Faire les chèques à l'ordre de 'Congrès 1965 de l'A.D.C.' Frais d'inscription: \$40 (seul), \$10 (épouse). Le comité du congrès vous invite instamment à vous inscrire à l'avance. Vous recevrez une confirmation de logement réservé directement de l'hôtel ou du motel.

National Convention
Canadian Dental Association
Dental Association of the
Province of Quebec
May 30 — June 2, 1965

Québec

Congrès national
Association dentaire canadienne
Association dentaire de
la province de Québec
du 30 mai au 2 juin, 1965

Name/Nom _____

Address/adresse _____

City/ville _____ Province _____

Wife's Christian Name/prénom de l'épouse _____

Accommodation requested Hotel ☐ single/simple ☐ double ☐

Logement désiré Motel ☐ twin/jumeaux ☐ suite ☐

Post-Convention Attractions

Among the many popular places to visit in Quebec are the province's picturesque GASPÉ PENINSULA and the fascinating SAGUENAY district.

A post-convention visit to the NEW YORK WORLD'S FAIR may also be arranged at a minimum cost.

Suggestions après le congrès

Il y aurait lieu de profiter d'un voyage au Québec pour visiter les régions du SAGUENAY et de la GASPÉSIE — centres touristiques renommés.

Pour un coût minimum, il y aura possibilité d'une visite à L'EXPOSITION MONDIALE DE NEW YORK, par Air Canada, après le congrès.

SCHEDULE OF EVENTS • HORAIRE DU CONGRÈS

Sunday Evening, May 30

Registration

Soirée Française — wine and cheese tasting party

Monday Morning, May 31

Opening Meeting

Grieve Memorial Lecture — H. I. Margolis, Boston

Pharmacology — L. E. Francis, Montreal

Local Anaesthesia — M. A. Rogers, Montreal

General Anaesthesia with methohexital (Brietal Sodium)—Paul Rondeau, Vancouver

Scientific Exhibit—Montreal Dental Research Society

Table Clinics on Orthodontics

Canadian Dental Association Luncheon — Installation of new president

Monday Afternoon, May 31

Gnathology — John Vincelli, Montreal

Oral Diagnosis — R. H. Johnson, Montreal

Complete and Partial Prosthodontics — Donald Kepron, Montreal

Periodontics — Georges Pelletier, Montreal

Motion Pictures

Panel — Dental fees: A method of determination by means of a relative value system — R. A. Clappison, R. C. Freeman and W. W. Pressey, Toronto

Periodontics — J. G. Dale, Toronto

Dimanche soir, le 30 mai

Inscription

'Soirée française' — dégustation de vins et fromage

Lundi matin, le 31 mai

Ouverture

Conférence du Grieve Memorial — H. I. Margolis, Boston

Pharmacologie — L. E. Francis, Montréal

Anesthésie locale — M. A. Rogers, Montréal

Anesthésie générale avec méthohexital (Brietal Sodium) — Paul Rondeau, Vancouver

Exposition scientifique — Montreal Dental Research Society

Cliniques de table d'orthodontie

Déjeuner de l'Association dentaire canadienne — Installation du nouveau président

Lundi après-midi, le 31 mai

Gnathologie — John Vincelli, Montréal

Diagnostic buccal — R. H. Johnson, Montréal

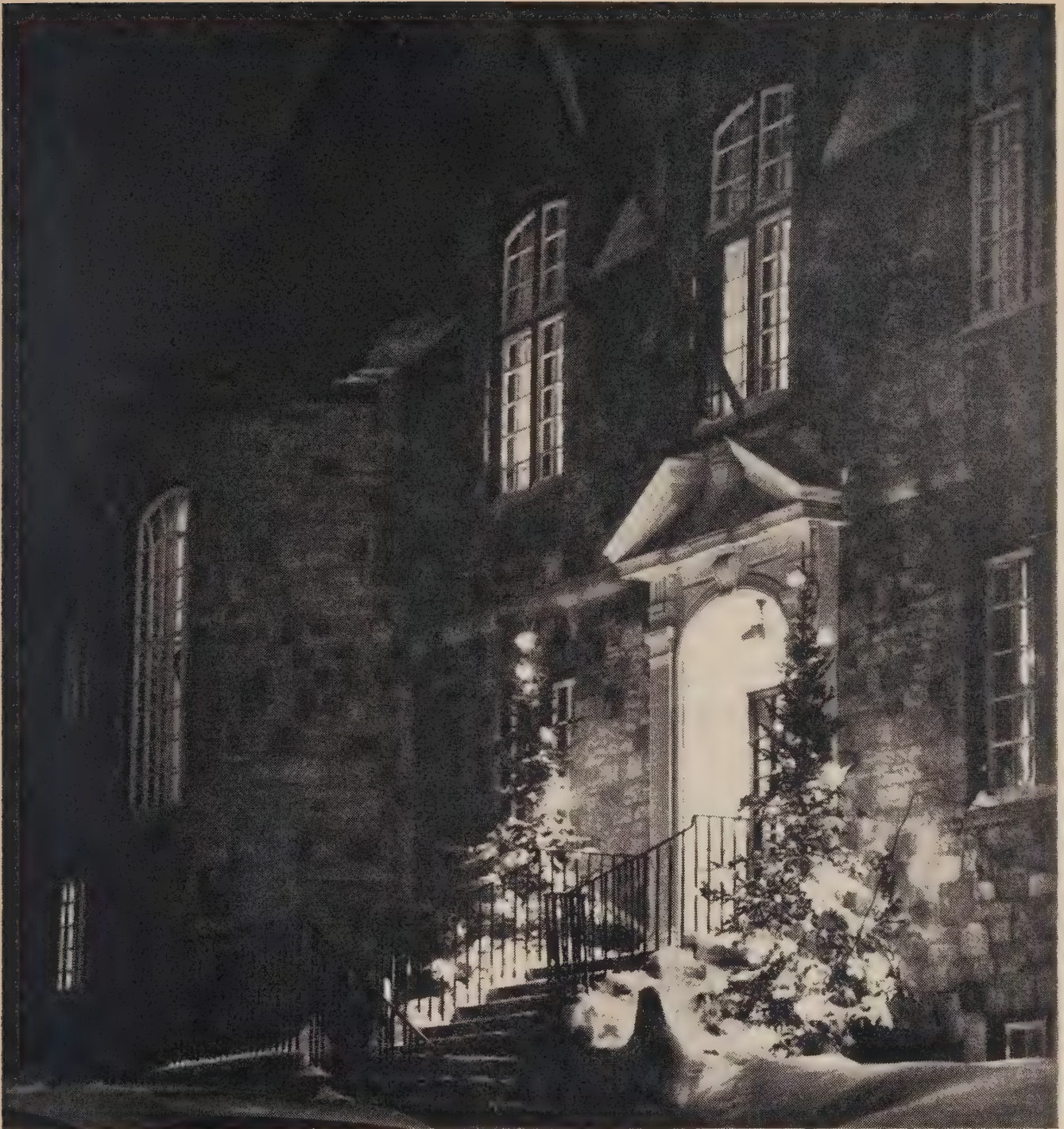
Prothèse complète et partielle — Donald Kepron, Montréal

Périodontie — Georges Pelletier, Montréal

Pellicules cinématographiques

Colloque — Méthode de déterminer les honoraires au moyen d'un système de valeur relative — R. A. Clappison, R. C. Freeman et W. W. Pressey, Toronto

Périodontie — J. G. Dale, Toronto



Monday Evening, May 31

Soirée Canadienne — Quebec Winter Club

Tuesday Morning, June 1

Concepts of Occlusion — A. G. De Pietro, Philadelphia

Partial Prosthodontics — Fundamental principles in the application of the occlusal

Lundi soir, le 31 mai

Soirée canadienne — Québec Winter Club

Mardi matin, le 1er juin

Concepts d'occlusion—A. G. De Pietro, Philadelphie

Prothèse partielle — Principes fondamentaux de l'application de l'appui occlusal et des

rest and intracoronaral attachments — Jacques Fiset, Montreal

Endodontics — Henryk Silbert, Montreal

Motion Pictures

College of Dental Surgeons of Quebec Luncheon — J. B. Macdonald, Vancouver, speaker

attachements intra-coronaires — Jacques Fiset, Montréal

Endodontie — Henryk Silbert, Montréal

Pellicules cinématographiques

Déjeuner offert par le Collège des chirurgiens-dentistes de la province de Québec — J. B. Macdonald, Vancouver, conférencier

Tuesday Afternoon, June 1

Aesthetics in Dentistry — Yves Dufresne, Trois-Rivières

Operative Dentistry — E. R. Ambrose, Montreal

Splints — Harry Rosen, Montreal

Complete Prosthodontics — Roland Baribeau, Trois-Rivières

Motion Pictures

C.D.A. Panel Presentation — Feasibility of introducing a national dental health scheme in Canada

Mardi après-midi, le 1er juin

Dentisterie esthétique — Yves Dufresne, Trois-Rivières

Dentisterie opératoire — E. R. Ambrose, Montréal

Jumelage — Harry Rosen, Montréal

Prothèse complète — Roland Baribeau, Trois-Rivières

Pellicules cinématographiques

Colloque A.D.C. — La possibilité d'établir un plan national d'assurance-santé dentaire au Canada

Wednesday Morning, June 2

Paedodontics — G. H. Weinlander, Montreal

Aesthetics in Dentistry — Yves Dufresne, Trois-Rivières

Sterilization — Claude Madore, Montreal

Concepts of Occlusion — A. G. De Pietro, Philadelphia

Motion Pictures

Table Clinics

Dental Association of the Province of Quebec Luncheon

Mercredi matin, le 2 juin

Pédodontie — G. M. Weinlander, Montréal

Dentisterie esthétique — Yves Dufresne, Trois-Rivières

Stérilisation — Claude Madore, Montréal

Concepts d'occlusion — A. G. De Pietro, Philadelphie

Pellicules cinématographiques

Cliniques de table

Déjeuner de l'Association dentaire de la province de Québec

Wednesday Afternoon, June 2

Motion Pictures

Panel — twelve clinicians

Mercredi après-midi, le 2 juin

Pellicules cinématographiques

Colloque — douze conférenciers

Wednesday Evening, June 2

C.D.A. President's Banquet and Ball — Host: Government of the Province of Quebec

Mercredi soir, le 2 juin

Banquet et bal du président de l'A.D.C. — Hôte: Gouvernement de la province de Québec



Specialty Sections

Canadian Dental Association sections on dentistry for children (Canadian Society of Dentistry for Children), oral surgery (Canadian Society of Oral Surgeons), orthodontics (Canadian Society of Orthodontists), and periodontics (Canadian Academy of Periodontology) will also present scientific programs between May 30 and June 2.

Orthodontics: Grieve Memorial Lecture — H. I. Margolis, Boston; Begg Technique — Harold Kesling Group, Westville, Indiana

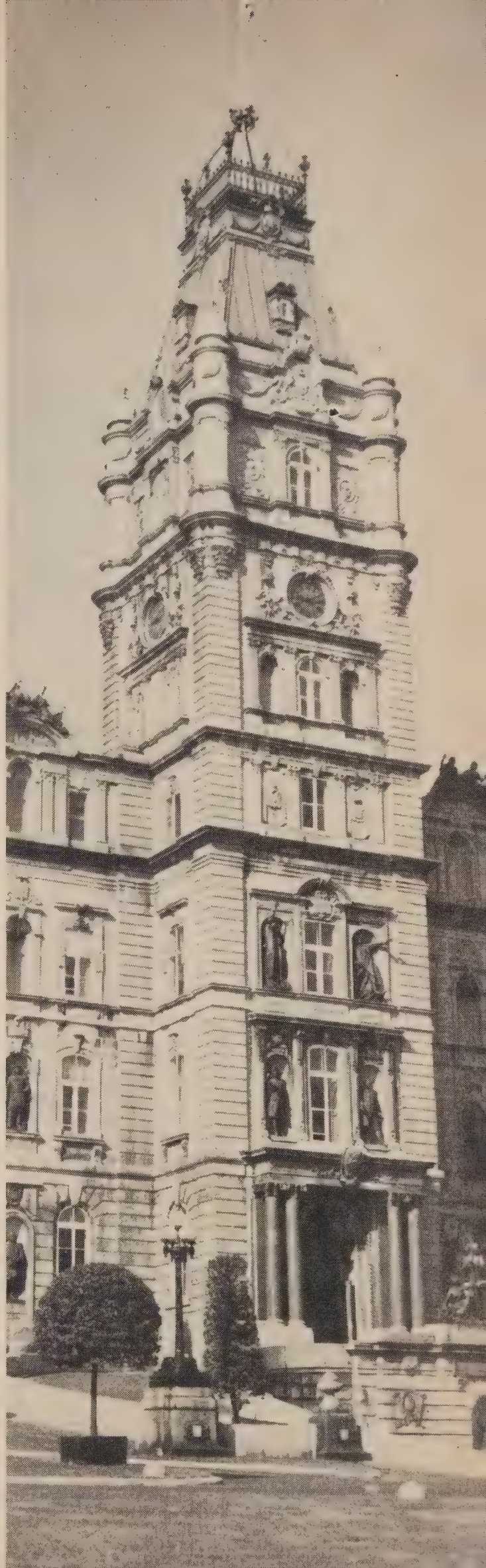
Periodontics: L. E. Francis, Montreal; R. H. Johnson, Montreal; J. G. Dale, Toronto; W. F. Walford, Montreal; Anders Bennick, Toronto

Spécialités

Les sections de l'Association dentaire canadienne tiendront leurs assises en même temps que le congrès de l'A.D.C. du 30 mai au 2 juin. Ces sections sont les suivantes: Académie canadienne de périodontie, Société canadienne de chirurgie buccale; Société canadienne de dentisterie pour les enfants; Société canadienne d'orthodontie.

Orthodontie: Conférence du Grieve Memorial — H. I. Margolis, Boston; Technique de Begg — Groupe Kesling, Westville, Indiana

Périodontie: L. E. Francis, Montréal; R. H. Johnson, Montréal; J. G. Dale, Toronto; W. F. Walford, Montréal; Anders Bennick, Toronto



Dental Hygienists

The Canadian Dental Hygienists Association welcomes its members to the second annual convention to be held in Quebec City. Of special interest will be the first annual board meeting; installation of officers; lectures by Yves Dufresne, Trois-Rivières, and J. G. Dale, Toronto; and various social events.



Jill Dossett, president,
Canadian Dental
Hygienists Association



table clinics, the annual business meeting, installation of officers, and other social events.

Hygiénistes dentaires

L'Association canadienne des hygiénistes dentaires invite ses membres à assister à son deuxième congrès, qui aura lieu à Québec. Le programme comprend la première réunion d'affaires annuelle, l'élection des officiers, des conférences par les docteurs Yves Dufresne de Trois-Rivières et J. G. Dale de Toronto, et d'autres activités sociales.



Penny Waite,
president, Canadian
Dental Nurses and
Assistants Association

Dental Assistants

The Canadian Dental Nurses and Assistants Association invites all dental assistants to the annual meeting in Quebec City. Program highlights include keynote speakers,

Assistantes dentaires

L'Association canadienne des infirmières et des assistantes dentaires invite cordialement ses membres à son congrès annuel, qui aura lieu à Québec. Le programme comprend des conférenciers, des cliniques de table, la réunion d'affaires annuelle, l'élection des officiers et d'autres activités sociales.



Chemotherapy in treatment of solid tumours of the oral cavity

F. W. Lovely,* D.D.S., Ann Arbor, Michigan

Treatment methods for neoplasms of the oral cavity are outlined. Drugs used and the complications that arise from their use are described. Methotrexate, a folic acid antagonist, is the most effective antineoplastic chemotherapeutic agent presently available. The most effective therapy and the toxic manifestations of this drug are described. Further refinements in the chemotherapeutic drugs themselves and the technique for their use are required. As new and more selective drugs become available chemotherapy will likely become a useful and successful therapeutic means of treating otherwise incurable neoplasms.

L'auteur énumère les différentes façons de traiter les néoplasmes de la cavité buccale et il décrit les médicaments utilisés et les complications qui dérivent de leur emploi. Le méthotrexate, un antagoniste de l'acide folique, est actuellement l'agent chimiothérapeutique le plus effectif. L'auteur décrit cette thérapeutique et ses manifestations toxiques. Des recherches devront trouver des façons d'améliorer les médicaments chimiothérapeutiques eux-mêmes et les techniques pour leur emploi. La chimiothérapie, grâce à la découverte de substances nouvelles et d'usage plus varié, est appelée à jouer un rôle de plus en plus important dans le traitement efficace et utile des néoplasmes apparemment incurables de la cavité buccale.

Malignant neoplasms of the oral cavity and lips account for five per cent of all malignant neoplasms of the human body. Eighty per cent of these neoplasms are

curable if detected and treated in the very early stage of the disease process.¹

Even with early diagnosis and treatment 20 per cent of all oral neoplasms are incurable. This figure, plus that obtained through late detection and treat-

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ment, indicates that the rate of incurability far exceeds 20 per cent.

Because so many patients with oral cancer cannot be greatly helped by surgical or radiation therapy, research in the field of antimetabolites was commenced.

BACKGROUND

The obvious drugs which attracted attention were alkylating agents such as nitrogen mustard (HN_2) which had been in use for many years. Intravascular use of this drug soon showed limitations because of its lack of specificity and its destructive action on normal tissues.

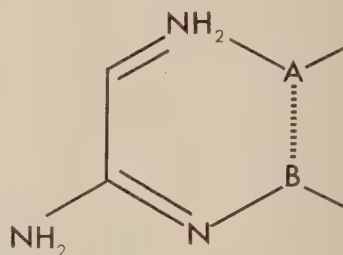
Subsequent clinical studies proceeded more rapidly than laboratory research studies. Obviously, the required drug was one that would prevent the formation of any new neoplastic cells and destroy those already present, thus eradicating the neoplasm in its entirety. The alternate hope was that some antimetabolite would safely convert an incurable neoplasm to a state where it could be successfully cured by surgical and/or radiation therapy.

Antimetabolites such as glutamine antagonists, pyrimidine antagonists and folic acid antagonists (antifolics) were studied. These drugs were found to have a fairly specific antineoplastic effect, especially with prolonged continuous administration. Unfortunately these drugs also caused systemic toxicity of varying degrees. Methotrexate, an antifolic, appeared to be least toxic of all those studied.² It was soon found that this toxicity could be greatly reduced by the intermittent ad-

ministration of citrovorum factor 6. This factor does not greatly reduce the antineoplastic effect but permits use of the antimetabolite in higher doses. Later studies showed that glutamine and pyrimidine antagonists were far too toxic to be used in the required method.² This meant that most studies were limited to the antifolic compounds.

CHEMISTRY

Antifolics may be conveniently divided into two classes. The first class contains:



Where A . . . B may be $\text{C}=\text{C}$; $\text{N}-\text{C}$; or $\text{C}=\text{N}$. This is the only class that is useful in cancer chemotherapy.³

Specific antifolics of the second class (Figure 1) are:

Aminopterin $\text{R}=\text{X}=\text{X}_1=\text{H}$

Methotrexate (MTX) $\text{R}=\text{CH}_3$; $\text{X}=\text{X}_1=\text{H}$

Dichloromethotrexate (DCMTX) $\text{R}=\text{CH}_3$; $\text{X}=\text{X}_1=\text{Cl}$

Of the three, methotrexate appears to be the chemotherapeutic agent of choice in the treatment of solid neoplasms of the oral cavity.

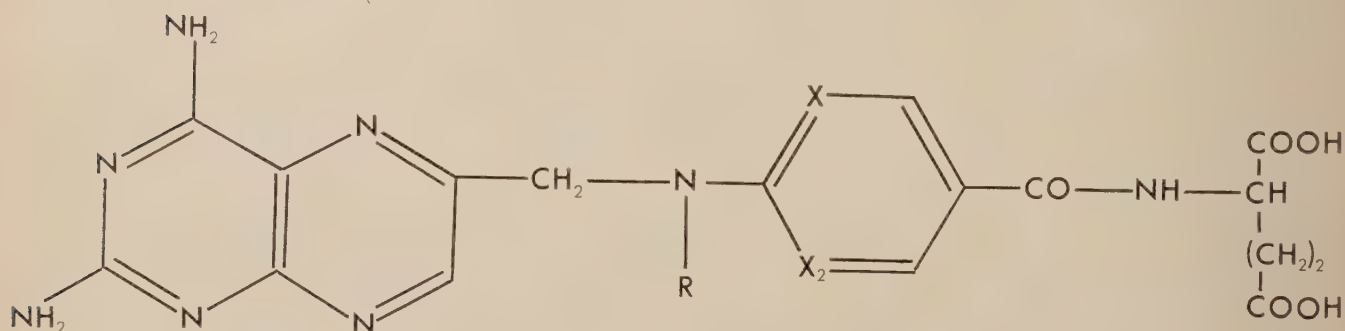


FIGURE 1

PHARMACOLOGY AND THERAPEUTIC ACTION

The antimetabolic action of chemotherapeutic drugs is a pharmacological action.

Cell reproduction is a biochemical process brought about by enzymatic reactions on metabolites derived from food substances. Anything that will stop this reaction by displacing the metabolites is an antimetabolite or a metabolic antagonist.³ The fact that this reaction can be reversed is an important one in the management of toxic manifestations of the drug. Antimetabolites are referred to as chemotherapeutic agents if they inhibit undesired growth, such as that of cancer cells, without causing unduly harmful effects to the host.

Folic acid antagonists of class 1 can combine firmly with dihydrofolic reductase. This blocks the 'folic acid cycle,' cutting off the supply of tetrahydrofolic acid that is needed for reactions leading to the formation of purines and thymine essential to the production of deoxyribonucleic acid (DNA).³ DNA is essential to cell reproduction. The hope is that tumour cells undergoing rapid mitosis will be inhibited in their reproduction and more rapidly destroyed than the more slowly reproducing normal cells. It must be mentioned that resistance to these drugs develops and the cells appear to reproduce even though the folic acid cycle is not operating to completion.

Excretion studies have shown that 50 to 60 per cent of the drug is excreted in the urine. Concentrations in the spinal fluid are very low provided the infusion technique has been properly carried out and the drug is not entering directly into the internal carotid artery.

TOXICITY OF CLASS 1 ANTIFOLICS

The toxic effects of class 1 antifolics possibly are due to the inhibition of nucleic acid in rapidly proliferating cells. The rate of proliferation is high in cells of the haemopoietic and leucopoietic systems, gonads, oral and intestinal mucosa.⁴ It was thought that the degree of toxicity should be directly proportional to the time of contact with the aforementioned tissues. This does not appear to be the situation as onset of toxicity

may vary from 12 hours to 14 days after the commencement of infusion.

The first signs of toxicity are ulcerations of the buccal mucosa, followed by ulcerations of the lips and tongue. These symptoms are followed by ulcerations of the intestinal mucosa resulting in haemorrhage. In a study by Stovner et al.,⁵ hyaluronidase (1,000 I.U.) and citrovorum factor (3 mg.) were dissolved in a glass of lukewarm tap water and given to seven patients for mouthwash and gargle three times a day during infusion. This was combined with 6 mg. citrovorum factor given intramuscularly every six hours. These patients developed none of the mucositis that usually accompanies infusion with methotrexate. The workers felt that the use of hyaluronidase greatly facilitated the penetration of the mucous membranes with citrovorum factor.

The next major and perhaps most serious toxic complication is depression of haemopoiesis. This, of course, can be an advantage in the treatment of childhood leukaemia. The extreme potency of antifolics, however, make haematopoietic depression one of the greatest problems in connection with their use. Daily differential blood counts must always be carried out while these drugs are employed. Depression of bone marrow activity is very hard to control and, when not detected and treated immediately, is often fatal during treatment. There is adequate laboratory and clinical evidence that administration of citrovorum within four hours after overdosage with any of the folic acid antagonists results in a reversal of haematopoietic and generalized toxicity.⁶ Fatalities from the toxic effects of the drug can be greatly reduced if very close blood monitoring is carried out during the treatment.

INDICATIONS AND CONTRA-INDICATIONS

The most frequent indication for antifolic therapy is treatment of acute stem cell leukaemia and the 'blast' stages of most other forms of acute leukaemia in children.³ Antifolic therapy has a certain degree of effectiveness in the treatment of lymphosarcoma. Next, in order of successful results, is treatment of solid

neoplasms of the head and neck. Chemotherapeutic drugs are also useful in treating carcinoma of the lung, seminal vesicles and cervix. However, arterial infusion in these areas is difficult, making therapy almost impossible. Solid neoplasms that are epithelial in origin apparently respond best to chemotherapy. Since treatment with chemotherapy does not histologically retard healing of wounds,^{4,7,8,9} chemotherapy is beneficial if it will transform incurable neoplasms to an operable state.

Methotrexate should not be given to patients with impaired renal or liver function. It must be used very cautiously in patients whose bone marrow has been damaged by infiltration of neoplastic cells or by previous drug or radiation therapy or to those who have recently been treated with testosterone. Methotrexate is contra-indicated during pregnancy as it affects embryonic cells in the same manner as neoplastic cells.²

ADMINISTRATION AND DOSAGE

There are various methods of administration. Systemic therapy via the oral or parenteral route has very little effect upon most common forms of epithelial neoplasms. Systemic therapy also produces toxic side effects early in the course of treatment. Single arterial injection or perfusion results in high neoplasm concentration in the affected area, but the localized effect lasts for only minutes to hours. This effect is too transient to produce maximal action on the neoplasm. By continuous local arterial infusion high concentrations are maintained for prolonged periods yielding greater effectiveness.¹⁰ The generalized side effects are reduced by the intermittent intramuscular administration of citrovorum factor.

The technique of intra-arterial infusion is as follows:

An incision is made in the superficial temporal artery just anterior to the tragus of the ear. A polyethylene catheter is then passed down the external carotid artery to the level it is desired for the infusate to go. If the neoplasm is on the tongue the catheter is passed just beyond the branching of the lingual artery. The

area to be infused is then checked by injecting Fluorescite, a fluorescent dye, into the catheter. The lights are extinguished and the face and the oral cavity are viewed using an ultraviolet light. This will adequately outline the unilateral distribution of the dye. The catheter is then connected with the infusate which contains 25 mg. of methotrexate in 1,000 ml. physiological saline and heparin to prevent clotting. This amount of infusate would be given over a period of 24 hours from a drip bottle located approximately eight feet above the infused area. Citrovorum factor is given at the rate of 6 mg. every four hours via the intramuscular route. This infusion is continued for 14 days unless toxic symptoms necessitate discontinuing administration of the drug. If early toxicity is manifested, the infusion is stopped but the catheter is left in position for a later infusion. After maximal results have been obtained the infusion is discontinued and the catheter is removed. This form of therapy requires the efforts of a highly competent team and the facilities of a hospital.

Early investigators, such as Duff et al,¹¹ attempted to insert the catheter directly into the external carotid artery. This frequently resulted in haemorrhage and subsequent treatment failure. We now overcome this difficulty by inserting the catheter into the superficial temporal artery and threading it down in the carotid artery to the desired level.

SUMMARY

Treatment methods for neoplasms of the oral cavity are outlined. Drugs used and the complications that arise from their use are described. Methotrexate, a folic acid antagonist, is the most effective chemotherapeutic agent presently available. The most effective therapy and the toxic manifestations of this drug are described.

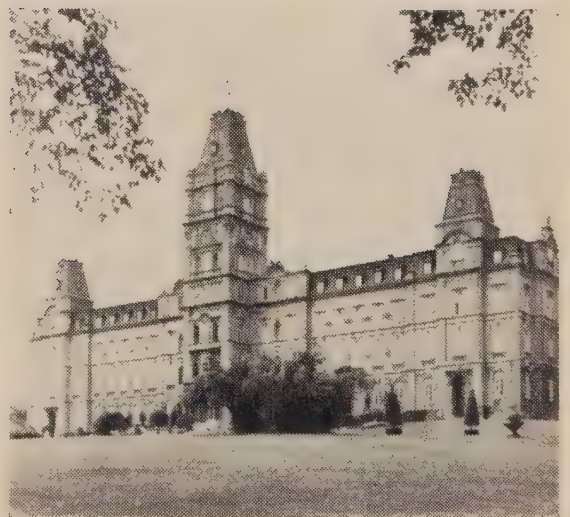
Further refinements in the chemotherapeutic drugs themselves and the technique for their use are required. As new and more selective drugs become available chemotherapy will likely become a useful and successful means of treating otherwise incurable neoplasms.

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Voting turn-out at a fluoridation plebiscite

D. G. Fish,* M.A., Ottawa, Ontario, Esther S. Hirabayashi,† M.A.,
and G. K. Hirabayashi,‡ Ph.D., Edmonton, Alberta

A study of the voting turn-out at the 1959 Edmonton fluoridation plebiscite revealed the following characteristics: there was no difference in the rate of voting turn-out of men and women; voting turn-out increased with age but tended to decline after age 60; the more years of education, the greater the turn-out; the higher the occupational level, the higher the turn-out rate; the middle income ranges displayed the highest voting turn-out; property owners are more likely to go and vote on the fluoridation plebiscite than are non-property holders; the greater the interest in fluoridation, the greater the turn-out; people with extreme views on fluoridation are more likely to vote than those who are indifferent or undecided; those who report voting at the fluoridation plebiscite are more likely to

report at either or both of the previous federal or provincial elections than are those who do not report voting at the plebiscite; and when people who are indifferent or undecided about fluoridation go to the polls they are not more likely to vote against the issue than they are to vote for it.

■

L'analyse des résultats d'un vote tenu sur la fluoration en 1959, à Edmonton, donne les renseignements suivants: hommes et femmes ont voté également; le nombre des voteurs a augmenté avec l'âge, mais avec tendance à diminuer passé 60 ans; le nombre des voteurs fut en proportion de leur degré d'instruction et du niveau de leur occupation; la plus grande proportion des voteurs s'est située chez les gens à revenus moyens; les propriétaires se sont rendus voter en plus grand nombre que les locataires; plus les gens étaient intéressés à la question, plus nombreux ils ont voté; ceux qui avaient une opinion bien décidée sur la question ont voté en plus grand nombre que ceux qu'elle laissait

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sait indifférents; ceux qui ont voté à l'occasion de ce plébiscite ont probablement voté en plus grand nombre aux deux élections provinciale et fédérale ou à l'une ou l'autre; les personnes indécises ou indifférentes à la question qui se sont rendues aux polls ont voté plutôt contre que pour la fluoruration.

Most sociological studies of fluoridation plebiscites have been concerned with the attitudes of the population toward the issue, with descriptions and analyses of the anti-fluoridation attitude, with the effects of community organization and structure, and with the effects of anti-fluoridation propaganda.¹ To the best of our knowledge, however, no study has looked at a fluoridation plebiscite in terms of the voting behaviour involved. In this paper problems concerned with the turn-out at a fluoridation plebiscite in Edmonton, Alberta, are examined. The problems may be listed as follows:

1. Are those opposed to fluoridation more likely to vote on the issue than those in favour?

2. Are those who are interested in the issue of fluoridation more likely to turn out to vote than those not interested in the issue?

3. What are the voters' social characteristics (age, sex, socio-economic status, and so forth) compared to those of non-voters?

4. Are those that vote in a city election also those that vote at provincial and federal elections?

5. Does the association of the fluoridation plebiscite with city elections have any influence on the outcome of the plebiscite?

The answers to these problems have obvious implications not only for an explanation of the outcome of plebiscites, but also for the conduct of campaigns supporting the various public health issues placed before the public.

FLUORIDATION PLEBISCITES IN EDMONTON

Plebiscites on fluoridation in Edmonton have been held in conjunction with

city aldermanic and mayoralty elections, and money by-law referenda. The ballot on which the voter marks his preference for or against fluoridation is one of many dealing with the various civic issues. The situation is complicated by the fact that city voting regulations prescribe that only city property owners may vote on the money by-laws. However, all city residents may vote in the mayoralty and aldermanic elections and in plebiscites (such as the fluoridation plebiscite) that do not involve money by-laws. This regulation was publicized widely in the press and on radio and television at the time of the elections.

A majority of 66 2/3 per cent is required by provincial law for a successful plebiscite. In 1959 the plebiscite had been rejected with a pro vote of 55 per cent, a decrease from the 1957 plebiscite when the pro percentage reached the critically close figure of 64.6 per cent. It is important to note, however, that the turn-out at the civic polls has been relatively low compared with federal and provincial elections. Only 35 per cent of the eligible population voted on the fluoridation issue in 1959.

METHODS AND SAMPLE

The methods and sample employed in this study have been previously described in detail.² Three hundred and fifty-six individuals were selected by careful random sampling procedures from the population of the city of Edmonton and were interviewed by trained interviewers on a wide range of topics related to fluoridation, including their voting behaviour at federal, provincial and civic elections.

RESULTS

Voting Turn-out and Opinion on the Issue.—It is clear that the 1959 plebiscite did not present a representative picture of the climate of opinion on fluoridation. According to our sample, 49 per cent of the population favoured the issue and only 17 per cent were opposed. Therefore, if every eligible voter in Edmon-

ton with a definite opinion on the issue had turned out to vote, the referendum could have passed. A general awareness of this situation seemed to be present among people interviewed during pilot studies as they frequently attributed the failure of the plebiscites to the fact that those in favour of fluoridation failed to get out and vote, whereas those opposed always turned out to the man. This speculation was not, however, supported by the results obtained from the survey. Although there was a tendency toward greater turn-out on the part of the antis, this was not statistically significant. While 52 per cent of the pros turned out to vote, 61 per cent of those against the issue took advantage of the opportunity to express their disapproval.

It is interesting to note that while 54 per cent of those who held definite opinions on the issue went to the polls, only 24 per cent of those who were indifferent or undecided about the issue cast their votes. This difference is statistically significant. Put another way, only a little over 12 per cent of those who turned out to vote were indifferent or undecided in their opinions. While it is customary to deplore the poor turn-out at civic elections, it is probably of some consolation that the majority of voters had given the issue sufficient thought to have framed a definite opinion.

While the percentage of indifferent or undecided voters going to the polls was small, the requisite for a majority of $66 \frac{2}{3}$ per cent meant that these voters played a significant role in the outcome of the plebiscite. In the pilot studies the remark was frequently made that those who went to the polls not knowing what their opinions were on the issue probably voted against fluoridation. In actual fact, according to our sample, 24 per cent of those who were indifferent or undecided but went to the polls, voted in favour of the issue, 33 per cent voted against, while no fewer than 43 per cent said that they refrained from voting on the issue. Thus, the indifferent or undecided citizen who actually went to the polls refrained from voting on the fluoridation issue, rather than casting a vote in one direction or the other. If this percentage is reliable, it tends to show that attendance at the

poll is associated with some degree of responsibility, rather than just voting for the sake of voting. It is an interesting comment on the oft-heard cry "it does not matter which way you vote, as long as you get out to vote!"

Interest in Fluoridation and Voting Turn-out.—Citizens with a great deal of interest in election campaigns are more likely to vote than those with little or no interest. In the Edmonton fluoridation plebiscite it was found that nearly 60 per cent of those who were interested turned out to vote compared to only 23 per cent of those with no interest at all and 38 per cent of those moderately interested in the issue. This relationship between interest and voting turn-out is statistically significant. Looking at this relationship in another way, more than 50 per cent of those who voted were very interested in the issue while only eight per cent of the voters reported that they had no interest at all. The fact that voters appear to have more than a modicum of interest in the issues on which they vote may be of some encouragement to the student of democratic processes.

It is, of course, not without significance that as many as 40 per cent of those who claimed to be very interested failed to record their vote. This seems to suggest that while the issue may have salience and relevance to a large part of the population, this interest does not lead them to take action in the form of expressing their opinion at the polls. It would seem that the low turn-out at municipal elections and plebiscites necessitates other explanations than that of lack of interest in the issues at stake.

Social Characteristics of Voters. — The voluminous literature on voting behaviour of the public shows that voters are generally drawn from segments of the population which can be described in terms of age, sex, education, and socio-economic class. The majority of these studies have been concerned with national and (American) presidential elections but few have paid any attention to local and non-political elections and plebiscites. In this section, the social characteristics of

the voter in the fluoridation plebiscite in Edmonton are described.

Sex.—There was very little sex difference in the rate of voting turn-out. Just over 45 per cent of men reported having voted compared to 42 per cent of women. Since most studies of voting turn-out have shown that men are significantly more likely to vote than women this result is perhaps unexpected. But perhaps in municipal elections, where property ownership is prerequisite to certain voting privileges, joint ownership of houses may influence the sex make-up of the turn-out. Furthermore, fluoridation has particular saliency for women because of their concern with children's health; and since children's health is inevitably a conversation topic among women, pressure to vote may be exerted from the women's social circle.

Age.—There is a definite relationship between age and voting turn-out. A greater proportion of voters is drawn from the older age groups (although past the age of 60 the percentage of voters appears to fall quite sharply). Thus, 32 per cent in the 21-30 age group exercised their voting rights, whereas 58 per cent did so in the 61-70 age group. It is interesting that young parents with children under the age of five are least likely to vote. This may in part be due to the ties and restrictions of the children. On the other hand municipal elections are held well into the evening and polling stations are conveniently located in most residential areas. Therefore non-attendance of young families can best be accounted for in terms of motivational factors. The consistency with which youth is associated with non-voting suggests that turning out to vote is a pattern of behaviour acquired by habit and not fully developed until the forties or fifties. The dominance of the older voter probably has critical effects on the outcome of a fluoridation plebiscite since the older individual is more likely to be opposed to the issue than the younger.³

Education.—In a previous paper we demonstrated that education is a direct creator of interest.² In this paper we

cite a high correlation between interest in the issue of fluoridation and voting turn-out. These relationships are reflected in the finding that nearly 60 per cent of those who had education beyond high school turned out to vote. In contrast, only 21 per cent of those with one to six years' education, and only 33 per cent of those with seven to nine years' education voted. It is noteworthy, too, that when those with less education do vote, their vote is more likely to be cast against the issue than for it.

Socio-economic Status.—The majority of studies reveal that voting turn-out tends to be related to socio-economic status. The higher the status, the higher the turn-out. The present study, using income and occupation as indices of socio-economic status, revealed a similar tendency toward higher socio-economic status accompanied by higher voting turn-out. But this relationship was not statistically significant. Professional people had a voting turn-out that is similar to skilled and semi-skilled workers, while those with incomes over \$9,000 had a turn-out that approximates those of the \$3,000-\$4,999 group. This reversal of the predicted relationship between socio-economic status and voting turn-out probably accounts for the lack of statistical significance. It seems fairly safe to say, however, that the voter at the city elections and fluoridation plebiscite is more likely to conform to the typology of being older, better educated, having an income of \$5,000-\$9,000, and belonging to the white collar or skilled manual worker class, than to any other social typology.

Property Ownership.—Property owners and non-property owners are equally interested in fluoridation. Neither are more likely to be predominantly for or against the issue.³ The difference in voting turn-out is, however, striking. Property owners constituted two-thirds of the sample. Eighty-five per cent of those reporting as having voted were property owners, but less than 20 per cent of the non-property owners appeared to have exercised their vote. This difference is statistically significant. Thus, despite equal interest in the issue on the part of

property and non-property owners, the voting population at the fluoridation plebiscite is heavily weighted with tax payers.

Several explanations can be offered to account for this difference. It may be that the property owner has a greater vested interest in city affairs, and perhaps it is ultimately more important to him as a tax payer whether fluoridation is accepted or not. It is the tax payer who will likely be using the water for some years to come and it is the tax payer's money that will be used to pay for the addition of fluoride to the water. The voting pattern may also reflect community identification in which stability of residence and occupation and growth of a feeling for "our community" provide a spur to voting action. This could tie in with the previously suggested typology of the "middle class," community-minded citizen. Further, there is the possibility that the city's publicized policy of permitting tax payers only to vote on the money by-law may have been taken by non-property owners to mean that they were excluded from the city polls altogether. In fact, approximately 20 per cent of the non-voters in the non-property owning group said that they had not voted in the plebiscite because they were not tax payers.

Fluoridation Turn-out and Voting at the Federal and Provincial Elections. — The low turn-out at the fluoridation plebiscite raises the question as to whether the voting population at the plebiscite constitutes an independent population or whether, in fact, it is a sub-population of voters at federal and provincial elections. We hypothesized that those who reported voting at the city elections would be more likely to report voting at the previous provincial and federal elections than those who did not report voting at the city elections. This hypothesis is substantiated by the data: in fact, 96 per cent of those who voted at the city elections reported voting at either or both of the federal and provincial elections. Of those who did not vote at the city elections, 75 per cent reported voting at provincial and federal elections. However, only 48 per cent of this latter group reported vot-

ing at both federal and provincial elections in contrast to the 81 per cent of city voters who did vote at both senior elections. The difference in political voting activity of voters and non-voters at the city election is statistically significant.

DISCUSSION

On the basis of the foregoing evidence, we cannot blame the failure of the plebiscites entirely on either the apathy of the pro-fluoridationists, the proclivity of the anti-fluoridationists to cast their vote, or the tendency of the indifferent or undecided to cast their vote on the negative side. The cumulative effect of these factors may, however, play a contributory part in the outcome of the plebiscite.

More significantly, and especially if we think in terms of democratic values, the decision on the plebiscite is being made by a small minority of the population which is not representative of the population in terms of its social characteristics. Further, the tendency for voters to be drawn from the older segments of the population appears to give the anti-fluoridation position a distinct advantage at the polls. This is further compounded by exclusion of non-property owners from money by-law referenda. This fact may be perceived as not being allowed to vote at all, or at least may discourage non-property owners from voting. Since non-property owners tend to be drawn from the younger cohorts of the population, many of whom live in apartment blocks and suites, the plebiscite loses many eligible pro-voters.

The findings raise two important practical questions:

First, what would the result be if the plebiscite was held as a separate electoral event, uninfluenced by differential voting privileges? Would the turn-out be greater? Or does the turn-out at the plebiscite rely on its association with the mayoralty and aldermanic elections to stimulate the population into turning out at all?

Secondly, assuming the desirability of full participation on the part of the community in a plebiscite of this nature, what steps can be taken to encourage greater

participation and what is likely to be the effect on the outcome of the plebiscite, if, in fact, the turn-out is considerably increased? It seems clear on the basis of our findings that the younger cohorts of the population, the young married couples and single citizens, represent a significant part of the absentees from the plebiscite. We would predict that a greater participation by this group would substantially raise the vote in favour of the issue.

These results have only limited application to fluoridation plebiscites in other cities and towns in Canada. Not every plebiscite is held in conjunction with city elections. A simple majority vote may suffice in some communities. Restrictions on voting at city elections may not be present everywhere. Elsewhere the social characteristics of the population may vary significantly from those of Edmonton. None the less, it seems clear that the method of holding a plebiscite and the distribution of social characteristics among the voters may be significant factors in the outcome of the plebiscite.

SUMMARY

This paper examines some of the social processes that influenced the outcome of a fluoridation plebiscite in Edmonton, Alberta. It was found that (1) there is no difference in the rate of voting turn-

out of men and women; (2) voting turn-out increases with age, with a tendency to reversal of this trend after age 60; (3) the more years of education, the greater the turn-out; (4) the higher the occupational level, the higher the turn-out rate; (5) the middle income ranges display the highest voting turn-out; (6) property owners are more likely to go and vote on the fluoridation plebiscite than are non-property holders; (7) the greater the interest in fluoridation, the greater the turn-out; (8) people with extreme views on fluoridation are more likely to vote than those who are indifferent or undecided; (9) those who report voting at the fluoridation plebiscite are more likely to have voted at either or both of the previous federal or provincial elections than are those who did not report voting at the plebiscite; and (10) when people who are indifferent or undecided about fluoridation go to the polls they are *not* more likely to vote against the issue than they are to vote for it.

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Dentistry: prospect for the future

Harold Hillenbrand,* D.D.S., Chicago, Illinois

Future prospects for North American dentistry include: rapid growth of prepayment dentistry necessitating establishment of a national association of dental service plans to co-ordinate existing plans and to offer national prepayment plans to nation-wide clients such as trade unions; repercussions on North American dental licensure practices resulting from intended abolition by 1969 of restrictions on the interchange of professional personnel by the six European Common Market nations; orderly identification and recognition of dental specialties; and expanded utilization of dental auxiliaries.

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On peut prévoir pour la profession dentaire de l'Amérique du Nord: une multiplication des plans de paiements anticipés qui nécessitera une association des plans de paiements de services dentaires pour coordonner tous ceux qui seront créés et pour offrir ces plans de santé dentaire à l'échelle nationale aux syndicats ouvriers; une répercussion sur les façons d'octroyer les licences pour l'exercice, due à l'abolition des barrières pour les professionnels que se proposent les six pays du Marché Commun, en 1969; la réglementation des spécialités et la reconnaissance de nouvelles; l'utilisation plus considérable de personnel auxiliaire.

As one listens to the morning news on radio or views it on television, more often than not one is dismayed by the prospect

for the future. Accidents, wars, disturbances and tensions are not good omens for the future.

—Helicopters are shot down in Vietnam, and Laos gets a new premier with an unpronounceable name.

—The WALL is still up in Berlin and there are tunnels and wreaths to mark the success and failure of keeping ideas out and people in.

—A governor in the United States announces that his wife will have a baby and this routine physiological event probably erases his name from the pages of history.

—General de Gaulle walks — not runs — for election and carefully listens for the voices which were last heard by Joan of Arc.

—The word 'trillion' appears for the first time in national estimates and nobody knows quite how much this is.

—Everything edible, useable or medicinal comes either in a plastic wrapping or a plastic bottle, and the pollution of hair spray carries hazards to the nation which are comparable to radioactive fallout.

—A new missile flames into the sky at Cape Kennedy and this name recalls the tragedy and sorrow of a nation and a world in its senseless loss.

—The stick shift has become the new status symbol; and when a certain President hot rods around his ranch, 2,000 teachers of safe driving resign their jobs in protest.

—The culture of the modern world is set back a full century by four animated armpits who make special noises and call themselves Beatles. After their appearance in the United States, many of our citizens were convinced that Britain had fully avenged the loss of her colony in 1776.

—A Senator challenges for the Presidency of the United States and turns his back not only on the Twentieth Century but also a good half of the Nineteenth.

Delivered at the Annual Meeting of the Canadian Dental Association, Edmonton, June 29, 1964.

*Secretary, American Dental Association.

The morning news tells us this and more: the world is barrelling toward the future on a collision course and, unfortunately, as yet only a limited few have the facilities to step off of the planet and get away from it all. The future, if nothing else, is inevitable.

In dentistry, the future seems certainly to be not quite so chaotic, yet there are problems which should trouble the best minds of the profession if its capacity to render adequate health service to an increasing population is not to be impaired.

If I were asked to point to what might be the greatest portent of the future, I would say that it is — for both the public and the profession — the 'rising tide of expectations' of people everywhere: for freedom, for peace, for income, for leisure, for health, for comfort and for a higher standard of living. As this standard advances, health is considered not as a luxury for a few but as a right for all. Dental health care, as an essential part of total health, must, then, be involved in this trend and this involvement will have — for good or for evil — an effect upon the patterns of practice in the coming decades.

PREPAYMENT PLANS IN DENTISTRY

Canada and the United States are already heavily involved in one phase of this trend: the search for methods to assist the public in paying for dental health care. It is my understanding that on July 1, legislation establishing the Alberta Dental Service Corporation became effective. I extend my congratulations upon this achievement to the dentists of Alberta as well as to the dentists in Nova Scotia and British Columbia who have also facilitated the establishment of dental service corporations.

In the United States, 22 service corporations have been established and, of these, nine are operating and providing coverage for 57 groups.

California Dental Service, one of the first dental service corporations, leads in enrolment by providing coverage for more than one-half million persons in 30 groups.

There is good evidence that two or more of the largest national labour unions in

the United States are now moving toward the provision of dental health benefits to their members as a part of new contracts with management on so-called 'fringe benefits.' While this will bring to many thousands the benefits of health service, it also creates new problems for the profession.

National labour unions prefer to write programs which are uniform for all of their members throughout the nation. Because some of the states, in which members reside, do not have dental service corporations, a mechanism must be found to provide the benefits in these states. As a first step, the American Dental Association is considering the establishment of a separate corporation to be known as the National Association of Dental Service Plans which will bring together existing dental service corporations. This association will endeavour to bring some uniformity to programs, record-keeping and procedures of the dental service corporations. As a second step, when this becomes necessary, the National Association of Dental Service Plans will establish its own insurance company so that uniform, national plans can be written for such clients as the labour union. This is a difficult and expensive undertaking but there is no good alternative if the profession is to expand the provision of dental health services on a professional, not-for-profit basis.

The initiation and growth of commercially sponsored dental health care plans is also a recent phenomenon and their further growth seems both desirable and inevitable. I believe that both of our associations were pioneers in this field by providing programs for our employees. The American Dental Association plan has been most successful and is welcomed by our employees and their families.

There are two other trends in mechanisms for facilitating the provision of dental health care on a group basis: the so-called 'closed panel' program and the self-insured program. In a closed panel, dentists are employed to provide services to a specific group, usually members of a trade union. There are some dangers in the use of the closed panel unless the participating dentists are well selected and permitted to render a high quality of

dental service. The closed panel also removes from the patient the free choice of his dentist.

The self-insured program does not differ materially from the dental service corporation or commercial insurance programs except that the underwriting is done by the company or the labour union itself.

In my view, it is still too early in the period of growth and development to state with certainty which mechanism — the dental service corporation or the commercial insurance program — will best satisfy the needs of the public and of the profession. I believe that both should be encouraged to grow and expand until experience reveals which program, if any, is superior.

The trend toward prepayment plans in dentistry is, in my opinion, one of the most significant of our time and will have an important bearing on dental practice, manpower needs and distribution and on the level of dental health in protected groups.

OPPOSITION TO DENTAL SERVICE CORPORATIONS

Most curiously, the development of dental service corporations has become the target of a questionable opposition. In the United States there are presently two organizations which are committed to oppose dental service corporations and their activities: the Association of American Dentists and the Council on Dental Information. I am informed that there is a Canadian counterpart of the latter but no relation between the two has yet been established.

The Association of American Dentists, which has never denied its affiliation with the ultra—rightwing John Birch Society, has an unknown total membership and steadfastly refuses to disclose the names of its members. Its source of support is unknown and it snaps to the call of its secret masters by refusing to endorse fluoridation if not actively opposing it. It opposes all types of federal aid, the graduated income tax, the United Nations and various racial and ethnic groups. This group is obviously attempting to use the dental profession and den-

tal issues to obtain its own misty and sinister political objectives.

The second group is the Council on Dental Information which denies any relation with the John Birch Society but mouths the same principles. Its source of support is also unknown. It used the leftist tactics of infiltration and harassment and wails loudly about the need for democratic processes while abusing them roundly. It also is committed to the destruction of dental service corporations and, conceivably, because it is ruthless and zealous could be a hazard to them.

These groups might be ludicrous in their efforts to escape from the modern world did we not have foreboding examples of zealots who burned their scars of hate and disruption on the faces of many countries of the world. We must protect their right to be as queer as they are in the matters of freedom of speech and freedom of assembly but we must also exercise our democratic prerogative of asking that they stand up to be counted and identified.

Groups such as these are a clear and present danger to the profession's efforts to bring more dental health services to more people. The profession must respond as Thornton Wilder warns us in another context: "Every good and excellent thing . . . stands moment by moment on the razor edge of danger . . . and must be fought for."

EUROPEAN COMMON MARKET

In the United States, at least, there is another trend which is being forecast by the activities of the European Common Market. Under the Treaty of Rome of 1957, France, Germany, Belgium, the Netherlands, Italy and Luxembourg, the treaty countries, agreed to eliminate within a period of 12 years, obstacles to the free movement of dental and medical personnel. In this period, they were to seek "mutual recognition of diplomas, certificates and other qualifications in medicine and dentistry."

These treaty provisions create a tremendously difficult problem by compelling the development of a mechanism under which a physician who practises dentistry in Italy (the stomatologist) will be permitted to practise, say, in Ger-

many where dental education is comparable to that in Great Britain, Canada and the United States.

In the United States, each state has its own dental practice act and these are by no means uniform. The effect is to limit the freedom of movement of dentists between the states except through the mechanism of a new state board examination which may not be handled successfully by a dentist who has good clinical skills but who is at some distance from the days of undergraduate book-learning.

If six countries—and, perhaps, eventually ten—with different languages, varying educational systems and strong national feelings and traditions can arrange for a free exchange of dentists, then we, in the United States at least, must move toward greater freedom in our own system of licensure. I do not think it is possible to develop a system of universal reciprocity between our states in the predictable future, nor am I sure such a system would be wholly desirable. However, some of the present barriers which are unrealistic and unnecessary must be removed if government is not to intervene and diminish the profession's present right to govern itself.

OTHER TRENDS

There are other trends and problems which are of concern to the profession, but time permits no more than their mention here.

The identification and recognition of the specialist in dentistry is a cause for concern. The areas of specialization should be clearly defined and adequate advanced educational facilities must be developed in good supply. The multiplication of specialties into a meaningless list must be avoided, and methods for the recognition of the specialist on the basis of educational and other qualifications must be devised. If the health of the public is to be safeguarded, dentistry must adjust to this increasing tempo of specialization in a modern world.

In Canada as in the United States, the expanded utilization of auxiliary personnel creates many problems. Dentistry must identify those operations which can be delegated to auxiliaries so as to in-

crease the effectiveness of the dental health team and thus enlarge the profession's productivity. At the same time, the profession must refuse to permit the delegation of duties which require the professional competence of the dentist even under the threat of legislation.

Of concern in this area in the United States is the dental laboratory technician for there are signs that the technician will increase his pressure for licensure and eventually licensure for intra-oral operations. To anticipate this trend and forestall it if possible, the profession in the United States has established an educational program leading to the certification of dental laboratory technicians. This program has been successful in raising the educational standards of the dental technician and of the dental laboratory craft.

The American Dental Association, in active co-operation with nine other dental groups, has established a Joint Commission on the Accreditation of Dental Laboratories whose operating program has just been initiated. Under this program the competent, ethical dental laboratory will be identified by an on-the-site inspection by well qualified inspectors. The laboratory meeting the standards of the Joint Commission will be permitted to identify itself as such to the profession.

It is hoped that this program will raise the standards of the dental laboratories and, at the same time, call the attention of the practising dentist to the laboratory which can render an efficient and ethical service.

CONCLUSION

These, then, are some of the trends of which the profession must be increasingly aware. The 'rising tide of expectations' will not recede and ebb back into the sea from which it came. It will rise to ever higher levels as its waters are blown by the winds of a better and richer life for more of the world's people. It is the profession's job to see that this better and richer life includes higher and higher levels of personal and community health, of which dental health must be an essential part.

222 East Superior Street

Michel Sarrazin: sometime

Our knowledge of dentistry during French Canada's early colonial period is nebulous. These were the days of the barber-surgeon, a designation that encompasses many individuals with diverse training and varying degrees of skill.

In France, whence originated these barber-surgeons, the vocation is often represented by Ambroise Paré (1510-1590).¹ Paré was one of the barber-surgeons in the army of Francis I of France (the patron of Jacques Cartier). He introduced many humane and life-saving innovations during the frequent wars of this period. In his old age he was criticized for these innovations, and to justify himself, wrote the book *Journey into Divers Places*.

The order of barber-surgeons still prevailed in Montreal a hundred years later. Here, the curious custom of combining the two offices of barber and surgeon in the one person was probably due to the almost universal employment of bleeding as a panacea for almost every ill.² This operation required nothing other than a sharp knife, and some knowledge of the proper location for the incision into one of the great veins. Many documents of the time bear evidence of this combination of offices. Thus, in the Archives of

Montreal we read that in 1668 René Sauvageau signed a lease for a house. The rent was 25 livres a year, payable in wheat. In addition Sauvageau undertook to attend the landlord and his family when they were ill. He was also to keep his landlord's beard shaved. Michel de Sircay also combined the functions of surgeon and valet de chambre to François Marie Perrot, then governor of Montreal. Perrot had a savage temper. He may, however, have kept it within bounds in view of the possibility that Sircay the surgeon might avenge injuries inflicted upon Sircay the valet. In 1667 Sircay bought forty arpents of land from one Jean Raynard, for which he partially paid a sum in cash. As further compensation Sircay undertook, for a period of three years, to keep Raynard's beard shaved, and to bleed him, his wife and children when necessary.

About 40 years after its publication, William Harvey's text, *Circulation of the Blood*, began to influence French medical thought. For hundreds of years previously all respectable theories on treatment of disease included the letting of blood. This is well typified by Guy Patin, the most eminent teacher of medicine in Paris during the early days of Louis XIV. Patin bled patients of every age and for every disease. He bled newborn infants

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Tenue En l'annéee d'icy deux foys par luy mesme
 devant l'Eglise seye sur un banc par luy mesme
 et malade En un lieu par quatre ou cinq douze
 de seize ou vingt ans d'age En presence
 des personnes pubes Concelliers mais de George prêtre praticien
 Informé d'icelle et d'un velle maître son gendre
 de la 1^{re} l'officier d'icelle pendant ses dernières
 approuvé Cinq mois de capture de Nulle
 Malheur

Bernard

J. Cauché

P. Prunier

D. Hemay

J. B. B.

and he bled the aged. Those who were less bloodthirsty than himself he branded contemptuously as 'haemophobes.' In general, bleeding was the one subject about which physicians, surgeons, barber-surgeons and apothecaries had no disagreement. With a better understanding of the importance of blood and its function this unanimity ceased. But this newer knowledge probably did not reach Canada till the end of the seventeenth century. By 1850 bleeding had almost completely gone out of fashion in Quebec, but during the cholera epidemic of 1832 it was still the most favoured remedy of some physicians.³

Generally, the barber-surgeon remained chiefly a barber. Tooth-drawing and surgery were only practised occasionally until the bigger guilds of barber-surgeons began to employ anatomists. In Edinburgh Alexander Munro became professor of anatomy to the Company of Surgeons in 1720. He later became the first systematic teacher of medicine or surgery in Edinburgh, and he is regarded as the founder of the famous medical school of that city. Private dissection rooms and anatomical theatres were started at about this time, notably those of Dr. William Hunter (1718-1783) in London—the first perch of his more famous brother, John Hunter. In Paris, the old Collège of St-Côme of the barber-surgeons gave way to the Academy of Surgery in 1731. In both London and Edinburgh a company of barbers and surgeons had been in existence for many years before, back to the times of Henry VIII and Holbein's great painting of them receiving a charter. But not until these companies became associated with the study of anatomy, physiology and pathology did the surgical profession generally begin to take rank with the older order of physicians. Hence, the significance of a surgeon's eulogy on John Hunter: "more than any other man he helped to make us gentlemen."

Between the barber-surgeon Ambroise Paré and the well-schooled surgeon of the nineteenth century stands Michel Sarrazin, a sometime barber-surgeon of Quebec.⁴

Sarrazin was born on September 5, 1659, at Nuits-sous-Beaune amid the vine-

yards of Burgundy, the son of Claude Sarrazin, bailiff of the estates of the Abbaye des Cîteaux, and of Madeleine de Bonnefon, his wife.

He arrived in Quebec in the summer of 1685, at the age of 26, bearing the title of surgeon. The ship that brought him also carried a detachment of soldiers. It is probable that his services were immediately called upon in connection with an epidemic that broke out in the accompanying regiment and for other exigencies of the colony, for in the following year, on September 12, 1686, he was commissioned Surgeon-Major of the troops in Canada by the Conseil Supérieur. This appointment was ratified by royal mandate from Versailles five years later.

Life in New France, at the time of Sarrazin's first sojourn in Canada (1685-94), was gradually becoming more civilized. The Colony mirrored, in spite of material difficulties, the customs of the period in the provinces of old France. The population of 15,000 was already divided into parishes, the larger centres being at Quebec, Montreal and Trois-Rivières. To these came an unceasing influx of colonists of high as well as low degree. Law and order were maintained by the Conseil Souverain de Québec (later the Conseil Supérieur) which enforced the edicts and ordinances of the French rule, and judged the difficulties of the community as they arose. This Council, formed as it was of the elite of the country, and numbering on its roll all the great names of the Colony, constituted a local aristocracy of high repute. The clerical administration was organized on a peculiarly liberal basis for the epoch, with secular and regular clergy, while education was cared for by primary schools, by a preparatory seminary and Jesuit College at Quebec, and by the Sulpicians and others at Montreal. In spite of monopolies, commerce and industry flourished under the wise administration of the patriotic Intendant Jean Talon. To the fur trade, lumber and fishing export were added grist mills, tanneries, and so forth for domestic manufacture of the necessities of life.

Of Sarrazin's actual professional activities during this early period of his life we know relatively little. His name is

mentioned as surgeon attending several duels. In his military appointment he was certainly active, and received invaluable experience among the wounded during the siege of Quebec by Sir William Phipps in 1690.³ In 1693 he was also appointed physician to the Hôtel-Dieu of Quebec by the Sisters, who held him in high esteem, and he undoubtedly practised his art not only among the troops but throughout the Colony.³

Thus a barber-surgeon was designated by Louis XIV as the leading surgeon, and a little later selected by the Sisters of the largest hospital (probably 50 beds at this time) as their chief physician, all within six years after landing in this country. Six other surgeons practised in Quebec at this time, and three more were attached to military companies. Of these Timothée Roussel and Beaudoin had some prestige, but Sarrazin stood out above all the others; nevertheless, he was in those days "just a surgeon."

On one of his visits to Montreal in 1692 he fell seriously ill and made a notarial will, dated at the Hôtel-Dieu of Montreal and preserved in the City Archives, in which he bequeathed his surgical books to three local surgeons, the Sieurs St-Amand, La Source and La Sonde, who had evidently attended him. The bequest was later revoked in a second will made during a subsequent relapse at Quebec.

Little or no evidence appears at this period of the profound interest in natural history and the scientific trends which was so prominent a feature of Sarrazin's later life. Only two facts attest this interest. First, there was his intimate friendship with Franquelin, the hydrographer of the Jesuits' College. Second, dissatisfaction over the inadequacy of his training as a barber-surgeon led him, after eight year's practice in this country, to resign his military commission and return to France for the purpose of obtaining further medical training and a university degree. The surgeon Beaudou, who arrived in 1693, was commissioned in his place by Frontenac in 1693, and in 1694 Sarrazin sailed for France. He returned to Canada three years later with the desired academic qualifications, a trained scientist with connections es-

tablished among the leaders in his field of research, and destined to become in deed as well as in name the foremost physician of New France.

Almost immediately after reaching Paris, he apparently commenced studies at the Ecole de Médecine, where he followed lectures at the Amphithéâtre Riolan, and received clinical instruction at the Hôtel-Dieu of Paris.

The doctorate of medicine, for which he had enrolled himself, required a preliminary master of arts diploma and seven years of study. That he was able to abridge these requirements within the three years of his stay in France is probably explained by the wide clinical experience which he had gained in Canada. He presented himself in 1697 for the doctor's degree at the University of Rheims, from which university some 30 years later his son also graduated.

The Paris Ecole de Médecine had by this time recognized the importance of Harvey's discovery of circulation of the blood. Its teachers were extending and pursuing the discoveries of great anatomists Malpighi and Morgagni, which opened the door to modern concepts of structural change in disease. They were influenced by the English clinician Sydenham, who died in 1689, and they brought this new knowledge to a focus in the birth of the great science of clinical medicine.

Moreover, Paris under Louis XIV, at the height of his military glory, was actively fostering two great scientific institutions allied to medicine and ministering indirectly to its advancement. They were the Jardin des Plantes and the Académie Royale des Sciences, both of which became to Michel Sarrazin an avenue and a source of inspiration for his future work.

A classmate of Sarrazin at the Ecole de Médecine was Joseph Pitton de Tournefort. This de Tournefort was subsequently appointed professor of botany at the Jardin. He is known as the great precursor of Linnaeus, and is said to have founded the modern science of botany. De Tournefort created the museum of the Jardin, both as a result of his own travels and from the fruits of the travels of others, and he became Sarrazin's earliest

protector and his first link with the scientific world.

The Académie Royale des Sciences was the outcome of intimate reunions of the best minds in Paris, among whom are mentioned the Descartes and the Pascals. Organized in 1666, the Académie was thoroughly overhauled in 1699 for Louis XIV. Here were assembled the great men of the period, represented in their respective fields by such names as de Tournefort, Réaumur, Boerhaave, Rømer, Peter the Great, and Isaac Newton. Selected by de Tournefort on March 4, 1699, Sarrazin became a corresponding member of the Académie at the same meeting that Sir Isaac Newton was elected an 'Associé étranger.'

Sarrazin had hardly settled into the collegiate atmosphere when agitation for his return to Canada was started. The Intendant Champigny in a letter (November 6, 1695) to the ministry appealed for the return of this man who "having acquired consummate knowledge of surgery during six or seven years in this country, has gone to France to complete his perfecting in the study of medicine," and suggested a salary of 600 livres.

Sarrazin put off his return as long as possible, using the time to make as many scientific contacts as possible, and probably for further study also. He must have been so busy following his abridged medical course, that the few months between the granting of his degree and his sailing are the only times unaccounted for, and must represent the extent of training he received as a botanist.

It appears quite clear from documents in the Quebec Archives that he came back with the definite intention of devoting at least a part of his time to the scientific interests he had developed in Paris and to utilize his distant location for the dissection of rare animals and researches into unknown plants. That he continued to carry out this resolution in full measure in the midst of an enormous and most engrossing practice was not the least remarkable feat of his crowded life.

Even before landing, he was plunged into the vortex of professional activity, for a serious epidemic of 'haemorrhagic

purpura' (probably typhus) broke out on the vessel on which he sailed, and spread from it to the inhabitants of Quebec and to the Sisters of the Hôtel-Dieu which was deluged with patients. Sarrazin threw himself into the situation with complete devotion and with apparent extraordinary success, for practically all of those affected on board were said to have recovered from the malady which 12 years before had carried off more than 800 victims.

In 1700 he was appointed by royal mandate and on a salaried basis 'Médecin du roi' and physician to all the hospitals of New France.

Each year up to 1709 appears to have had its epidemics. In some years these would claim as many as 2,000 lives. Then for a few years nothing extraordinary was noted apart from a gradual appreciation of the prevalence of tuberculosis. In addition to the infections there occurred the maladies associated with severe climatic conditions—rheumatism and lung diseases. Scurvy was also an ever-present hazard of inadequate nutrition.

But it was not all defeat and burying for Sarrazin appears to have treated most of the leading people, and with considerable success. Nor did he, in the exercise of his new profession, lay aside the art of surgery which he had practised so successfully before his return to France. The annals of the Hôtel-Dieu of Quebec contain many records of wounds dressed and operations performed by him in this later period of his life. Of these, the most interesting is an account of his treatment of the Mother Superior of the Congregation of Notre Dame of Montreal. This lady suffered from an intractable cancer of the breast, reputedly the result of the irritant action of penitential girdles. She came to Quebec for an operation about the year 1720. After treating the field of operation for some ten days, and partaking of the Holy Sacrament with his patient and the entire community of the Hôtel-Dieu, Sarrazin amputated the affected organ with complete success, for the patient made a good recovery and lived in the full discharge of her activities for 19 years longer, dying at the age

of 79.³ Sarrazin performed a similar operation on another nun a few months later.

Mentioned among the contemporary practitioners who flourished in New France during this later period of Sarrazin's life are Berthier, Roussel, Benoît and the Soupirans. Berthier was also a salaried 'médecin du roi,' who assisted Sarrazin in his attendance on the Governor, and was a surgeon at the Hôtel-Dieu until 1725. Timothée Roussel, physician to the Hôtel-Dieu, had offices in the rue de la Buade, where he built the famous house of the Chien d'Or. Joseph Benoît, also 'médecin du roi' from 1715 to 1728, served as surgeon to the hospital at Montreal together with his locally educated son Claude. The Soupirans practised in Quebec for three generations with no other knowledge than that passed from father to son. In a class by themselves were the Frères Boispineau, apothecaries to the Jesuit College, who openly practised medicine for many years with much success. Madeleine Bouchette, a trained midwife, who came to Canada on a salary from the King in 1722, represented another group, as did David and Gaschet, apprentices of Roussel. The most famous of the actual charlatans of the day was Marguerite Désy, of Trois-Rivières, as celebrated for her cures as for her scandalous conduct. Considerable protest was made against this unchecked liberty of practice before the Act of 1750. Thus, Lajus, physician to the Hôpital Général, in 1712 petitioned the Conseil Supérieur to limit the number of surgeons in Quebec to four, and to impose a fine of 200 livres, with confiscation of all drugs and instruments, on any surgeon from abroad setting up practice there. And one Timothée Sylvain (Timothy O'Sullivan, of Irish extraction) was required by Governor de Beauharnois to submit to examination of his medical knowledge by Sarrazin, the only person in the country competent to judge his fitness.³

Michel Sarrazin died on September 6, 1734, in his seventy-fifth year. The cause of his death was a contagious fever brought from a ship. Sarrazin contracted the fever from patients in the Hôtel-Dieu in Quebec where he died after two days of illness.

His epitaph, inscribed by the Sisters of the Hôtel-Dieu of Quebec in their register at the time, reads:

"For more than forty-five years he exercised his art in this country with rare charity, perfect disinterestedness, extraordinary success, surprising address, and an unparalleled devotion for every kind of person, which rendered him able to perform with joy and grace all that lay in his power for the relief of the sick under his care."

Sarrazin was not the first to describe new forms of plant and animal life found in Canada. In 1558, André Thevet wrote *The Oddities of Antarctic France, Otherwise Called America and Other Lands and Islands Discovered in our Time*. Champlain, Nicholas Denis, and Recollet Father Louis Hennepin, who accompanied La Salle, also recorded what they saw. In 1635 Dierreville published a *Canadensium Plantarum Historice*; and in 1665 Pierre Boucher, Governor of Trois-Rivières, wrote a *Histoire Naturelle de la Nouvelle France*.

Sarrazin's contribution of 200 living specimens to the Jardin Royal covers practically all the Quebec flora. It is said that he personally transplanted and watched over each of these plants as he studied them, and that he forwarded written instructions for their care and directions to collect the seed and return it to him. Two hundred specimens survived ten years later when a catalogue was made. How many were originally sent out can only be estimated.

Of his original descriptions of previously unknown plants, the most important is that of the pitcher plant which grows throughout North America. Named by de Tournefort after its discoverer, the pitcher plant's botanical name is *Sarracena purpurea*.

A later botanical contribution on the sugar maple, published in 1730 in the *Memoirs de l'Académie*, touches on a subject of national importance. He describes the *Acer canadense sacchariferum fructu minori* and states that the French, following the Indians, know the surgery character of its sap in springtime, the climatic conditions favourable for a good running (snow thaw, frost), and how much sugar a tree, three or four feet round, will give in a season. Competent authorities give him credit, if not for dis-

covery, at least for introducing commercial use of maple sugar.

The blueberry is another common Canadian fruit which Sarrazin made known in France.

As a member of the Conseil Supérieur, Sarrazin was asked to look into the question of harvesting and sowing grain—a vital question then, as now, in a country with short growing seasons. He procured in Sweden a small quantity of winter wheat and barley. This was sown by him in autumn, passed the winter without damage, and produced fine wheat the following summer, with grains a little smaller than the wheat of Canada. But this winter grain gave a larger amount of fine flour than the summer wheat. Sarrazin's solution to the cyclic food shortage was not accepted, however, and food, especially for the troops, had to be imported most years until after 1760.

Sarrazin's first personal observations on the beaver appear in the *Transactions* of the Académie Royale for 1704 and report a minute dissection of an animal weighing fifty pounds. His classic description of the muscles of the back and of their fasciae and aponeuroses is so clear that one can reconstruct from it the whole lateral wall. From the functional standpoint his greatest interest centered upon the formation and minute structure of the generative organs. Here he made the curious discovery of a single cloaca, making sex distinction in the beaver difficult. His most masterly exposition, however, is given of the digestive tract

and its linings, and he describes also the false ribs possessed by this animal. Twenty-eight years later, he returned to this subject and sought other beavers for dissection to confirm and extend his earliest observations.

Sarrazin's zoological masterpiece was entitled *An Extract of Various Memoirs of Monsieur Sarrazin on the Muskrat*. It was illustrated by 16 different figures made by himself. The description of the stomach and the changes that take place in it during digestion and on summer and winter diets is fascinating. Since he only possessed a crude magnifying glass "loupe" or elementary form of microscope, this is a real tour de force. Sarrazin also dissected and described the wolverine, the "Vache marine" (probably the floe rat or ringed seal, *Phoca foetida*), and, in great detail, the porcupine. He even attempted to dissect a skunk, but gave that up for the usual reason.

It is debatable whether Sarrazin was the greatest North American of his time. Although in Quebec there were subsequently many learned physicians and surgeons, none enjoyed the confidence of both the ruling class and those ruled as did Michel Sarrazin.

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Among many benefits to its members, the Canadian Dental Association sponsors guaranteed pension and life insurance plans, a retirement savings plan, a group hospital-medical-surgical-extended health care plan, a group sickness and accident plan, and a group office overhead insurance plan. Why not write for further details to C.D.A. Pension and Insurance Plans, 2249 Yonge Street, Toronto 7, Ontario.

Adénoaméloblastome

Présentation d'un cas

L'existence d'un adénoaméloblastome associé avec une canine permanente incluse au maxillaire a été confirmée par un examen histopathologique. Le patient n'a démontré aucune récurrence de la lésion, ni aucune métastase en cinq mois. Le cas fut traité de façon conservatrice.

■

Presence of an adenoameloblastoma associated with an impacted maxillary cuspid was confirmed on histopathological examination. No recurrence or metastasis was observed within five months of conservative surgical treatment.

L'adénoaméloblastome est décrit par Stafne¹ en 1948 et, depuis ce temps, la lésion est reconnue comme une entité distincte. Beaucoup d'articles sont écrits sur ce sujet parce que la lésion se différencie de l'améloblastome toutefois par la formation d'espaces semblables à des vaisseaux et par son contenu épithélial.

L'épithélium buccal a la puissance de se développer autant en tissu odontogénique qu'en parenchyme glandulaire.

Article qui a valu à son auteur le prix annuel offert par la Montour Medical Society, Pennsylvanie.

*Résident au département de chirurgie buccale, Geisinger Medical Center.

Cette puissance néoplasique des cellules favorise la différenciation de celles-ci. Les cellules odontogéniques qui sont cylindriques, étoilées ou cubiques peuvent s'organiser en rang ou en follicules ressemblant aux divers stages de la formation de l'émail. Les cellules qui ont un caractère glandulaire forment des acini et des structures ressemblant à des vaisseaux glandulaires, d'où le nom 'Adénoaméloblastome.'

Broca,² en 1868, est le premier à décrire la lésion connue sous le nom d'améloblastome. Faulkson³ décrit la même lésion en 1879 et plus tard Malassez,⁴ dans un ouvrage fameux, suggère le nom 'épithélioma adamantin.' Depuis lors, en 1933 Cahn décrit un améloblastome se développant dans un kyste folliculaire;⁵ cet article relate en effet qu'un kyste dentifère peut devenir un adamantinome.

En 1937, Thoma et Proctor rapportent que l'adamantinome peut dériver d'un kyste odontogénique.⁶ Depuis ce temps, plusieurs auteurs ont en effet rapporté des séries de cas, mais Robinson, dans une description de 379 cas d'améloblastomes, note que 45.7 pour cent de ceux-ci sont trouvés chez les hommes et que 54.3 pour cent se rencontrent chez les femmes; 83.7 pour cent sont dans la mandibule et 16.3 pour cent dans le maxillaire.⁷

Cahn⁵ et d'autres ont décrit des améloblastomes se formant à partir d'un kyste dentifère. Dans toute la littérature,

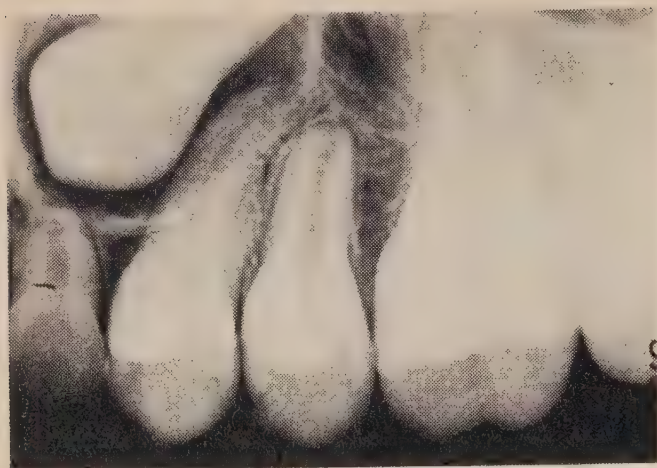


FIGURE 1 Radiographie périapicale préopératoire montrant la dent incluse et la lésion.



FIGURE 2 La lésion est circonscrite définie, ressemblant à un kyste.

l'opinion générale est que l'améloblastome ne démontre pas de malignité et doit être traité comme une lésion bénigne.

Une revision complète de la littérature depuis 1948 révèle que seulement 41 cas d'adénoaméloblastome ont été décrits et publiés à laquelle série nous en ajoutons un autre.

CARACTÉRISTIQUES

L'adénoaméloblastome, selon Topazian,⁸ est caractérisé histologiquement par:

1. un épithélium glandulaire et dentaire

au sein d'un stroma de tissu conjonctif qui est peu abondant;

2. les cellules sont organisées en forme de nids ou vaisseaux et elles peuvent être en forme de colonne ou cubiques;

3. une activité mitotique peu prononcée;

4. l'obstruction occasionnelle des vaisseaux par des structures ressemblant à de l'épithélium;

5. les nuclei des cellules formant les vaisseaux sont situés à l'opposé de l'ouverture;

6. l'absence de réticulum étoilé;

7. la présence occasionnelle de substance dans le lumen des vaisseaux; cette substance est un mucopolysaccharide, selon Gorling et Chaudry;⁹

8. la présence de matériel sphérique et calcifié.

A cette liste, on peut ajouter que cette lésion se retrouve surtout chez les personnes âgées de 10-21 ans; elle est plus fréquente chez les femmes et elle se produit plus souvent dans la région antérieure du maxillaire. L'excision de la lésion et de la dent qui s'y trouve guérit généralement le patient; seulement un cas fut rapporté où la lésion est revenue par la suite et ce, par Lucas.¹⁰ La tumeur est facilement traitée par excision simple et par l'extraction de la dent liée à la tumeur.

HISTOGÉNÈSE

L'adénoaméloblastome est classifié par l'American Academy of Oral Pathology dans la catégorie des 'tumeurs épithéliales odontogéniques', même si son origine est douteuse. Il est maintenant accepté que l'adénoaméloblastome provient de la partie externe de l'épithélium formant l'émail ou de ses débris, selon Bhaskar.¹¹ Des études récentes révèlent que l'adénoaméloblastome est en réalité un sac folliculaire dont la paroi prolifère dans l'ouverture de la cavité kystique. Ce genre d'épithélium croît seulement dans l'ouverture d'un kyste et non dans le tissu péri-kystique, ce qui produirait une lésion circonscrite.¹¹

L'apparence glandulaire de la lésion suggère l'essai de formation de tissu glandulaire. Puisque cette lésion ne se rencontre pas dans la région rétro-molaire

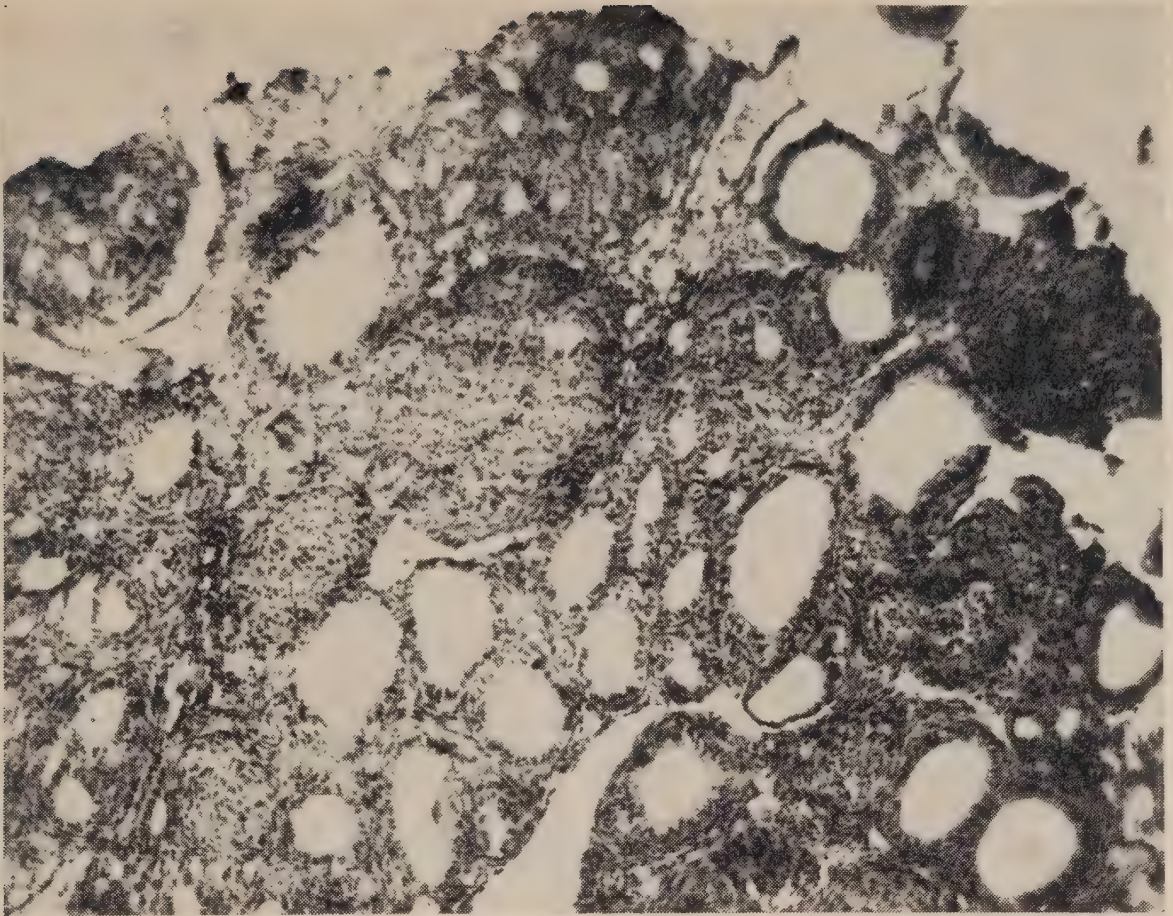


FIGURE 3 La tumeur est formée d'épithélium odontogénique avec des structures glandulaires. Hématoxyline- éosine, grossissement original x 10.

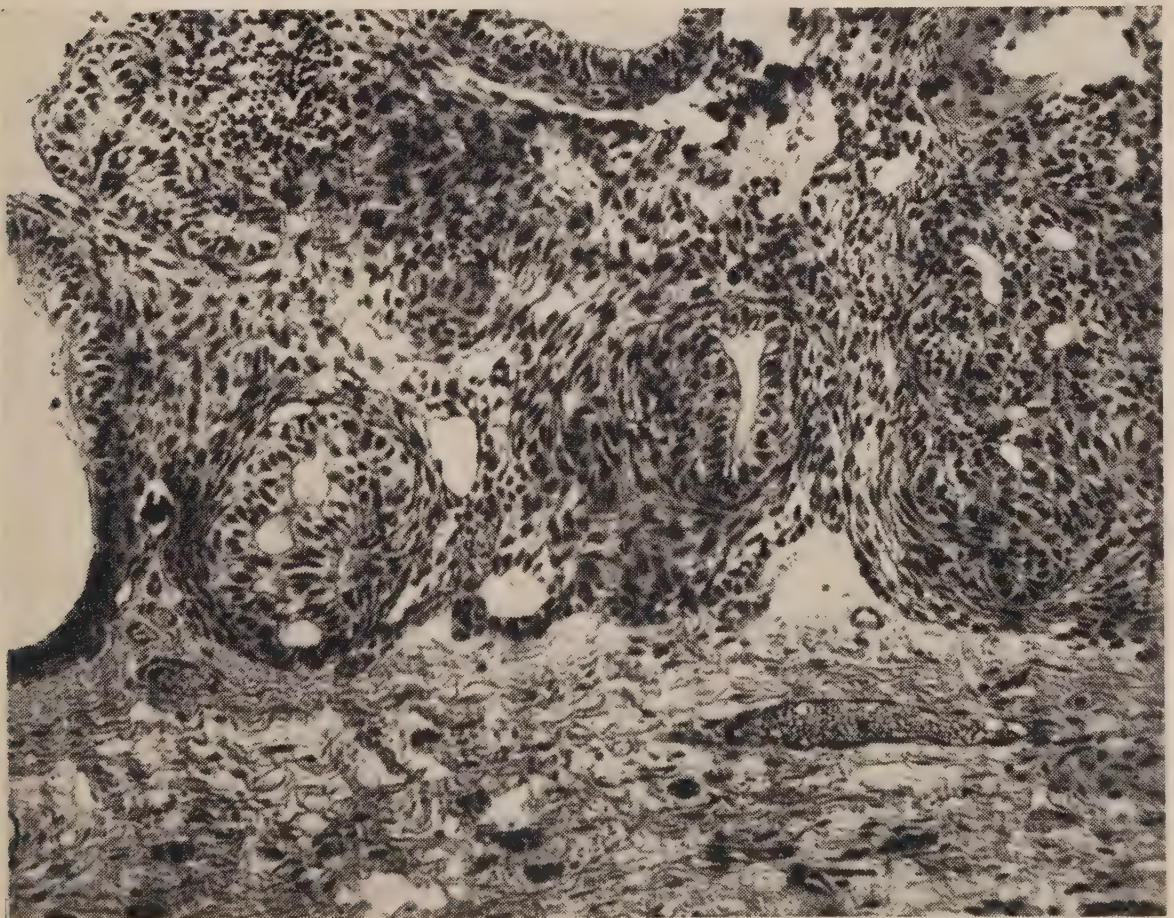


FIGURE 4 Projection montrant les structures pseudo-glandulaires et quelques calcifications, Hématoxyline- éosine, grossissement x 45.



FIGURE 5 Radiographie périapicale prise cinq mois après l'opération montrant la présence de la dent temporaire en place.

où les glandes muqueuses viennent en contact avec la mandibule et puisque des sections à travers des bourgeons dentaires révèlent de semblables structures tubu-

FIGURE 6 Radiographie occlusale montrant le défaut créé par l'opération et la formation des trabécules osseuses.



lares, cette théorie ne peut être acceptée.¹¹

Les calcifications qui souvent se rencontrent dans la lésion ressemblent à un 'tissu améloblastique' décrit par Mézl.¹² Ce matériel, se trouvant dans l'organe extérieur de l'émail, ne peut représenter l'émail. Sa position dans l'épithélium suggère en effet qu'il ne peut représenter le ciment ou la dentine. Les observations récentes de Bhaskar impliquent que ces calcifications représentent des éléments calcifiés dystrophiques.¹¹

L'adénoaméloblastome est différent de l'améloblastome du fait qu'il ne démontre pas d'envahissement des tissus adjacents; de plus, après énucléation simple de la lésion, elle ne revient pas. Si ces deux différences histologiques sont comparées, il est regrettable que les lésions aient été associées ensemble auparavant.¹³

En 1957, Lucas décrit l'adénoaméloblastome comme une lésion néoplasique à cause de sa "persistance de développement;"¹⁰ mais dans la littérature, il existe au moins deux cas dans lesquels une certaine quantité de tissu a été laissée en lors de l'opération et les dents en cause firent éruption normalement.¹³

PRÉSENTATION DE CAS

Le 24 avril 1963, un adolescent de 13 ans est référé au Département de chirurgie buccale au Geisinger Medical Center, Danville, Pennsylvanie, au sujet d'une canine incluse au maxillaire gauche et pour rétention de la dent temporaire correspondante. La dent temporaire correspondante du côté droit a été exfoliée environ six mois auparavant; la racine gauche temporaire ne montrait aucune mobilité normale précédant la perte de la dent. Un examen radiographique fait par le dentiste ne révèle aucune évidence de résorption radiculaire de la canine temporaire et on peut voir la canine temporaire incluse. La couronne de la canine permanente est entourée d'une zone radiolucide (Figures 1, 2). Le diagnostic préopératoire comprend une canine permanente incluse avec évidence d'un kyste dentifère et la rétention d'une dent temporaire.

On songe à passer un fil orthodontique autour de la dent incluse pour la des-

ceindre en occlusion. Toutefois, la position inclinée de cette dernière ne permet pas ce traitement, alors l'excision de la dent incluse et du kyste est décidée.

Le patient est admis à l'hôpital le 1er mai 1963. Le jour suivant, après prémédication et 60 mg. de sodium phénobarbital et 0.3 mg. de sulfate d'atropine, le patient est conduit à la salle d'opération. Sous anesthésie endotrachéale, un lambeau palatin est soulevé exposant alors l'os. La dent incluse est exposée au moyen de fraises chirurgicales et de curettes; après sectionnement, la dent est enlevée avec un élévateur. Le kyste est enlevé avec une curette. L'os est poli avec une lime à os et le lambeau est remis à sa place originale suturé avec de la soie 3-0.

Examen histopathologique.—Le spécimen comprend la canine supérieure et un morceau de tissu mesurant 2 x 1.5 x 0.5 cm. Seul ce tissu est analysé et la coupe histologique révèle une tumeur comprenant de l'épithélium très cellulaire et dense (Figures 3, 4). Les cellules sont organisées en arrangement glandulaire et les parois montrent des cellules cubiques et en forme de colonnes avec un noyau à la base, typique de l'épithélium odontogénique. Aucune mitose est observée; quelques calcifications sont présentes. Le tissu consiste en un tissu fibreux, collagineux dans lequel on peut voir des cellules épithéliales.

Le rapport du pathologiste est: "Adénoaméloblastome du maxillaire."

Observations post-opératoires. — Le patient n'a eu aucune complication post-opératoire et a reçu son congé de l'hôpital en très bon état, le 3 mai. Les sutures furent enlevées le 8 mai et un très bon processus de guérison noté. Toutes les dents répondent au test de vitalité sauf la canine temporaire qui est toutefois très ferme dans son alvéole.

Le 21 septembre, presque cinq mois après l'opération, le patient est examiné à nouveau et des radiographies sont prises

(Figures 5, 6). Aucune évidence de la lésion est notée cliniquement. Les tissus sont normaux et sans aucune dépression dans le palais à l'endroit où la canine permanente a été enlevée. La canine temporaire est solidement en place et tout est normal autour de celle-ci. Les radiographies démontrent que la lésion guérit normalement et les trabécules osseuses s'élaborent normalement. La racine de la canine temporaire n'est pas résorbée et les structures osseuses qui l'entourent sont d'apparence normale. Le patient n'a subi aucune douleur ou malaise à l'endroit de l'opération ou au maxillaire en général.

CONCLUSION

La lésion est associée avec une canine permanente incluse au maxillaire et le diagnostic est confirmé par un examen histopathologique. Le patient ne démontre aucune récurrence de la lésion, ni aucune métastase en 5 mois et le cas est traité de façon conservatrice.

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Geisinger Medical Center

Rapport annuel de la Ligue d'hygiène dentaire de la province de Québec

par Ephrem Vinet, D.D.S., Montréal, P. Qué.

La Ligue d'hygiène dentaire de la province de Québec a l'honneur de présenter le rapport de ses activités pour la période allant du premier avril 1963 au 31 mars 1964.

Grâce au travail de tous ses membres bien entraînés par plusieurs années de collaboration, la Ligue a cherché à couvrir le mieux possible le vaste champ de l'hygiène publique. Elle croit y avoir réussi, malgré un budget limité et un personnel insuffisant.

Pour faire l'éducation du public en hygiène dentaire, la Ligue a utilisé tous les moyens modernes de diffusion: radio, télévision, journaux, projections cinématographiques, cours, conférences, causeries.

Lors de l'assemblée annuelle, les représentants du Bureau des Gouverneurs du Collège des chirurgiens dentistes de la province de Québec ont exprimé leur satisfaction du travail accompli par la Ligue et souligné la collaboration apportée au Collège par la Ligue.

Cours et conférences. — Ces cours et conférences ont été donnés surtout à des groupements de personnes en position de retransmettre leurs connaissances plus complètes aux enfants et aux jeunes adultes: Ecole d'hygiène et Faculté de chirurgie dentaire de l'Université de Montréal; Ecoles d'infirmières; Ecoles normales; Scolasticats; Instituts familiaux.

En collaboration avec le Service de santé de la Cité de Montréal: conférences dans les écoles primaires et secondaires de cette cité. Nombre de cours et conférences donnés: 643.

Autres conférences. — Aux associations Parents-Maitres, Clubs sociaux (Richelieu, Kiwanis, Rotary, Lions, etc.); à des conseils municipaux; associations de citoyens; Association de producteurs de lait; associations et sociétés médicales, dentaires, paramédicales. Nombre d'écoles, associations, groupements: 318. Nombre d'auditeurs: 31,122.

Radio et télévision. — Causeries, conférences, interviews, forums à la radio et à la télévision: 1,854. Nombre de postes qui ont prêté leur concours: 36.

Journaux et revues. — La Ligue a fait parvenir chaque semaine un communiqué à tous les journaux quotidiens et hebdomadaires de la province. Nombre: 138. La majorité des hebdomadaires de la province ont publié régulièrement les communiqués de la Ligue.

Parmi les quotidiens, *La Presse* de Montréal, est le plus régulier. Ce journal publie chaque semaine un article d'hygiène dentaire, sous la rubrique: "Vos Dents . . . Image de votre Santé." Ces

articles ont été préparés par les dentistes-hygiénistes de la Ligue. La rubrique a été rajeunie, couvrant tous les aspects de l'hygiène dentaire au moyen d'articles pratiques.

En plus de ces articles envoyés aux journaux directement par la Ligue, les spécialistes en hygiène dentaire de la Ligue, chacun dans sa région respective, ont préparé et fait publier dans les journaux et revues de nombreux articles traitant d'hygiène dentaire, de prévention, de fluoruration, etc.

Nombre d'articles: 832. Total des articles et communiqués publiés: 8,742.

Littérature distribuée. — Résumés des cours distribués surtout aux éducateurs et futurs éducateurs, pour leur faciliter l'enseignement de l'hygiène dentaire: (Nombre) 3,403.

Littérature, documentation, fascicules, dépliants, manuels, distribués à la suite de cours, conférences, entrevues, démarches personnelles, sur demande du public, requis par la profession dentaire: (Nombre) 169,419.

Ces imprimés étaient des publications soit de la Ligue, soit du Ministère de la santé, soit de la Ligue canadienne de santé.

On s'est attaché à fournir de la documentation sur la fluoruration aux Services de santé, aux journalistes, aux commentateurs de radio et de télévision, ainsi qu'à toutes les personnes qui en ont fait la demande.

Correspondance éducative. — Au cours de l'année, la Ligue a reçu du public une moyenne de 50 lettres par semaine, particulièrement en relation avec des demandes pour de la documentation sur l'hygiène dentaire. Lettres reçues: 2,567.

Bon nombre de ces lettres ont exigé des réponses plus détaillées. Lettres reçues à ce titre: 358.

Les lettres reçues à la "Clinique Dentaire," du poste de radio CKAC, ont aidé au représentant de la Ligue, chargé de cette émission, à maintenir l'intérêt du public pour ce programme hebdomadaire diffusé par CKAC et ses postes affiliés. La formule de ce programme a été aussi rajeunie, grâce aux efforts du représen-

tant de la Ligue. Nombre de demandes reçues résultant de ces émissions: 368.

Entrevues. — Pour organiser les cours, conférences, enquêtes et autres activités, les dentistes-hygiénistes ont eu des entrevues, établi des contacts, échangé de la correspondance avec des dirigeants et des membres du personnel enseignant, des conseillers et administrateurs municipaux, des officiers de clubs sociaux, des journalistes, des gens de la radio et de la télévision, etc. Ils ont aussi visité une bonne proportion des dentistes, soit pour offrir leur collaboration ou solliciter celle des dentistes visités. Nombre d'entrevues: 1,758. Nombre de municipalités: 156 (moyenne de 26 municipalités par hygiéniste). Milles parcourus: 105,754 (moyenne de 350 milles par jour ouvrable).

Autres activités. — En plus de leurs cours, conférences, entrevues, etc., les dentistes-hygiénistes ont consacré beaucoup de temps à un grand nombre d'autres activités, directement ou indirectement liées à leur travail en hygiène dentaire publique.

Examens dentaires d'écoliers lors des enquêtes; compilation et collation des données recueillies au cours des enquêtes.

Collaboration avec la profession dentaire, par le truchement des associations et sociétés dentaires: la plupart des dentistes-hygiénistes de la Ligue occupent un poste dans les sociétés dentaires locales et régionales. D'autres sont des plus actifs auprès de l'Association dentaire de la province de Québec.

La préparation d'articles pour les journaux, revues, radio, etc., exige beaucoup de temps.

Les dentistes-hygiénistes, avec la permission des autorités, consacrent tous une partie de leur temps, souvent des soirées et des jours de congé, au service d'une organisation de santé quelconque: Ligue canadienne de santé, Société canadienne du cancer, Organisation des services médicaux d'urgence de la défense civile, etc. Ils sont en grande demande et sont des plus estimés par les agences volontaires, bénévoles, privées.

Au niveau de l'enseignement universitaire de l'hygiène dentaire, ce sont les

dentistes de la Ligue qui ont été choisis comme chargés de cours.

Enquêtes. — Au cours de l'année 1963-64, deux enquêtes ont été entreprises par les dentistes-hygiénistes de la Ligue, à la demande expresse des autorités municipales concernées: à Trois-Rivières et à Saint-Lambert.

Au cours de la préparation de ces enquêtes épidémiologiques, ils ont examiné plusieurs milliers d'écoliers. Ceci a exigé des déplacements et plusieurs jours de travail à chaque endroit.

Durant l'été, les dentistes de la Ligue se sont occupés en collaboration à compiler les données recueillies lors de ces deux relevés. Ils ont aussi terminé les données du relevé de Candiac et des municipalités qui s'y rattachent pour leur approvisionnement d'eau, St-Constant, Ste-Catherine, Delson, etc.

Le calcul définitif concernant ces relevés a cependant dû être remis à plus tard. En effet, le Dr Gustave Rochon, l'expert de la Ligue en calculs de relevés, nous a quitté avant d'avoir pu terminer ce travail.

Enseignement universitaire. — L'École d'hygiène de l'Université de Montréal a de nouveau confié au docteur A. McCabe, un dentiste de la Ligue, la direction des cours d'hygiène dentaire publique.

Pour faire suite à la démission du Dr A. McCabe, la Faculté de chirurgie dentaire a nommé le docteur Paul Simard comme professeur en hygiène publique et dentaire. Le docteur Simard a donné aux élèves de la Faculté une série de dix cours.

Collaboration avec la profession dentaire. — L'enseignement de l'hygiène dentaire ne peut être fructueuse, efficace, sans une entière compréhension entre les éducateurs en hygiène publique et la profession qui applique les principes enseignés à la population.

La Ligue a continué sa collaboration avec la profession, en aidant les associations dentaires, les dentistes et le Collège des chirurgiens dentistes de la province de Québec à mieux connaître la situation dentaire dans la province et

amener plus de coopération entre les confrères.

Afin d'atteindre ces buts, des représentants de la Ligue ont participé aux activités de presque toutes les sociétés dentaires de la province de Québec.

Associations dentaires. — Les membres de la Ligue se sont particulièrement signalés dans les activités de l'Association dentaire de la province de Québec. A cette Association, il y a un membre de la Ligue qui remplit la fonction de secrétaire-trésorier et de rédacteur du Bulletin de l'Association. D'autres membres sont secrétaires de leur Société dentaire régionale, directeurs ou délégués à l'Association dentaire de la province de Québec, présidents ou membres de comités de l'A.D.Q. (Association dentaire de la Rive-Sud, Société dentaire de St-Hyacinthe, Société dentaire du Nord-Ouest de Québec). A ces divers postes, parfois onéreux, les représentants de la Ligue ont cherché à servir le plus possible les intérêts de la profession.

Plusieurs sociétés dentaires de la profession ont utilisé les services non seulement du personnel, mais aussi du matériel de la Ligue: tels que films, projecteurs, diapositives, etc.

Congrès. — Le personnel de la Ligue a participé à deux grands congrès dentaires: celui de l'Association dentaire de la province de Québec, au mois de mai 1963, à Montréal; celui du Montreal Dental Club, en octobre 1963. Les deux congrès ont eu lieu à l'Hôtel Reine Elisabeth. Plusieurs spécialistes de la Ligue ont contribué activement à l'organisation du congrès de l'A.D.Q.

A l'occasion de ces deux congrès dentaires, la Ligue avait organisé un étalage du matériel qu'elle tient à la disposition des dentistes pour l'éducation de leurs patients. Plusieurs centaines de personnes ont rendu visite à ces deux étalages: dentistes, assistantes dentaires, médecins, infirmières, religieuses, institutrices, de Montréal, de la province, et même de l'étranger. Bon nombre de ces personnes ont été agréablement surprises de faire connaissance avec notre organisation. Des centaines de publications ont été distri-

buées, soit personnellement ou par courrier postal.

Services de santé et commissions scolaires.

— La Ligue a collaboré avec les médecins-hygiénistes et les nutritionnistes du Service de santé de Montréal, dans les 64 écoles où eurent lieu des séances d'hygiène alimentaire et d'hygiène dentaire. A l'issue des conférences, il y a eu projection du film 'Gardons nos dents.' Des spécialistes de la Ligue ont aussi collaboré avec des commissions scolaires à travers la province, soit à titre de consultants sur la question du lait dans les écoles ou hygiène dentaire, soit par le dépistage des maladies dentaires.

Ligue canadienne de santé. — Un membre de la Ligue d'hygiène dentaire est président du comité de fluoration de la Ligue canadienne de santé et d'autres font partie du même comité. Les deux Ligues collaborent étroitement, surtout en ce qui concerne la fluoration. Une de leurs entreprises conjointes consiste à tenir à date un relevé des municipalités qui fluorent leur eau de consommation au Canada et dans la province de Québec.

Association dentaire canadienne. — Aide continuée à l'Association dentaire canadienne, pour traduction de fascicules et autres publications. Des membres de la Ligue ont assisté au congrès de cette Association, à Toronto, en mai 1963, ainsi qu'à une réunion de l'Ontario Public Health Association.

La Ligue demeure en contact continu avec les organisations dentaires et d'hygiène publique, provinciales, nationales et internationales.

Films et rubans sonores. — La Ligue a traduit et adapté de courts métrages obtenus de l'American Dental Association. Ces films servent à la télévision.

Des diapositives avec message parlé, pour la TV, sont également en voie de préparation.

Bon nombre de courts messages, questions et réponses, brèves causeries, ont été enregistrés par les spécialistes de la Ligue, aidés de techniciens réputés, pour la radio et sont en circulation dans plusieurs postes de la province.

Sociétés paradentaires, médicales, diverses. — Le personnel de la Ligue collabore avec d'autres branches de l'hygiène générale. Les activités de la Ligue dans les domaines ci-haut mentionnés sont nombreuses et les membres de son personnel ont accordé leur aide à de nombreuses agences volontaires, charitables, civiques, en résumé partout où la cause de l'hygiène peut être enseignée et mise en vedette.

CONCLUSION

Les dentistes-hygiénistes et l'administrateur de la Ligue croient avoir accompli du beau travail au cours de la période terminée le 31 mars 1964. Et cela c'est fait avec un personnel réduit et un budget à peine suffisant.

La Ligue d'hygiène dentaire s'est méritée l'estime de tous ceux qui l'ont vue à l'œuvre. Les témoignages d'appréciation reçus publiquement ou par écrit, les honneurs que récoltent ses représentants sont la preuve que le travail accompli est jugé excellent.

426 est boul. St-Joseph

Vous faut-il une assurance-vie ou une protection quelconques? Les plans d'assurance de l'Association dentaire canadienne, qu'il s'agisse de plan d'épargne-retraite ou d'autres genres d'assurance, vous offrent la meilleure protection à des taux intéressants. Pour tout renseignement, écrire aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

Accréditation de la Division de l'hygiène dentaire publique du Ministère de la santé de la province de Québec

par L. J. Bonneau, D.D.S., D.H.D.P., Québec, P. Qué.*

La mise en action, par la Division de l'hygiène dentaire publique du Ministère de la santé, du nouveau programme des activités suscite beaucoup d'intérêt et d'enthousiasme.

Déjà, au mois de septembre 1963, dans la présentation de son rapport annuel, le docteur Paul Claveau, directeur général du Service des unités sanitaires, pouvait écrire ce qui suit: "A l'hygiène dentaire, on a commencé à ressentir nettement les effets de la réorganisation à laquelle on travaille depuis la fin de 1960. Ce ne sont pas seulement les chiffres qui témoignent ici d'un progrès, mais ce serait surtout la mentalité qui rejoint de plus en plus les soucis d'éducation, de prévention, de conservation, ce serait cette mentalité nouvelle qui, de l'avis des dentistes régionaux, constituerait le progrès le plus sensible et serait l'indice le plus encourageant des résultats à venir."

Comme la chirurgie dentaire emprunte à la médecine certaines connaissances, ainsi, l'hygiène dentaire publique emprunte à l'hygiène publique certains procédés sanitaires. Par exemple, elle se sert de la visite de vérification à domicile (follow-up) pour les cas référés, afin d'obte-

nir la coopération des parents et de parfaire leur éducation. Mais, dans ce domaine bien particulier de la prévention, l'hygiène dentaire publique constitue par elle-même une discipline et possède un grand nombre de méthodes qui lui sont exclusives, méthodes basées sur la dentisterie préventive pour éduquer la jeune population surtout, pour l'inciter à utiliser les moyens de prévention et à réclamer des traitements adéquats.

Il est donc logique que l'hygiène dentaire publique soit sous la juridiction complète et exclusive du Ministère de la santé. Et, au sein des "organismes permanents que sont les unités sanitaires," l'hygiène dentaire publique est devenue maintenant une discipline hiérarchique, qui non seulement possède les cadres d'action et les possibilités de mettre en application ces méthodes exclusives, mais qui détient aussi la juridiction pour procéder, selon les techniques professionnelles, à l'application de tous les principes reconnus en hygiène dentaire publique.

Les normes des diverses fonctions sont définies dans les "Règlements provinciaux relatifs à l'hygiène dentaire publique," lesquels serviront de base à la rédaction des articles de la "Loi de l'hygiène publique" dont la refonte est à l'étude.

Le statut de tous les dentistes responsables du programme étant établi, le prin-

Ce communiqué a été préparé par le Comité d'orientation de la Division de l'hygiène dentaire publique du Ministère de la santé, Province de Québec.

*Directeur de la Division de l'hygiène dentaire publique.

cipe d'engager des dentistes à plein temps étant admis, le choix des dentistes par voie de sélection par le Comité d'orientation selon des normes d'évaluation étant la politique suivie, les salaires, dont l'échelle est plus élevée, sont fixés, après recommandation, sur l'évaluation du rendement.

Selon les attributions spécifiées par les normes, le directeur de l'hygiène dentaire publique, participe à l'élaboration de projets à court et à long terme, décide lui-même des méthodes de travail et de la ligne de conduite à suivre dans les cadres d'un programme donné. Il doit rechercher des moyens pratiques et économiques dans l'application des lois confiées à la Division en vertu de la Loi de l'hygiène publique. Il peut y avoir surveillance d'un personnel important de professionnels et non professionnels à qui seraient confiées des tâches bien spéciales.

Au chapitre de l'organisation, le directeur doit "préparer avec son Comité d'orientation formé de trois ou quatre dentistes hygiénistes régionaux de son choix, les programmes d'éducation en hygiène dentaire publique, les services de prévention et de traitement. Organiser des enquêtes, des conférences, journées d'étude et de discussions."

La fonction des dentistes hygiénistes régionaux est définie par leurs activités professionnelles:

1. l'éducation professionnelle qui s'adresse à ceux qui peuvent retransmettre l'enseignement donné. A ce sujet, il est prévu qu'avec le concours des dentistes hygiénistes propagandistes de la Ligue d'hygiène dentaire de la province de Québec qui seront attachés à la Division, au 1er avril 1965, l'éducation, au niveau professionnel, sera organisée d'une façon statutaire et d'autorité dans certaines institutions de concert avec le Ministère de l'éducation et le Comité catholique des hôpitaux;

2. les relations extérieures sont engagées avec tous les organismes et les personnes intéressées au programme;

3. la recherche comprend les enquêtes en cours et qui se poursuivront sur la fluoruration et les indices de carie dentaire;

4. un rôle consultatif au niveau régional pour tout ce qui touche à l'hygiène

dentaire et à tous les échelons hiérarchiques;

5. enfin, l'orientation et la direction de toutes les activités dentaires, en particulier la surveillance de la mise en marche du programme et l'évaluation clinique.

Le travail clinique dans le champ, c'est-à-dire, les activités des dentistes cliniciens, étant en pratique d'une importance capitale, fait l'objet d'un *vade-mecum*. Ce manuel est un 'code de principes' en hygiène dentaire publique. Il présente, sous forme de communiqués, les cinq chefs d'analyse suivants de la fonction du clinicien: le domaine professionnel, le comportement et la méthodologie générale, les qualifications et les salaires, le domaine des relations et de la collaboration, et le domaine clinique.

Les directives précises pour l'orientation d'un programme local sont basées sur ce *vade-mecum* et sont émises par les dentistes hygiénistes régionaux qui sont de fait des conseillers techniques et qui ont les prérogatives et les pouvoirs délégués par le directeur de la Division pour les faire appliquer.

Vu l'immensité des besoins actuels et l'étendue des territoires généralement assignés aux dentistes cliniciens, le champ d'action clinique de ceux-ci est limité comme suit:

1. pour l'éducation et la propagande chez tous les enfants d'âge pré-scolaire et d'âge scolaire, y compris le grade secondaire, les parents qui accompagnent les enfants et les groupes d'adultes à l'occasion;

2. pour les examens et le dépistage chez les enfants d'âge pré-scolaire et d'âge scolaire, jusqu'à 12 ans inclusivement;

3. pour les traitements préventifs chez les enfants du groupe d'âge de 6-8 ans, dans le but de protéger le plus grand nombre de molaires de six ans; l'objectif est d'éduquer ces enfants, les initier aux soins dentaires de façon à les inciter à continuer de se faire traiter chez le dentiste de clientèle privée; le choix est fait au hasard par le dentiste lui-même; un certificat de 'Club de dents saines' est donné à ceux qui ont fait compléter la restauration de leur bouche chez le dentiste de clientèle privée.

Il est défini, dans le *vade-mecum*, qu'en Hygiène dentaire publique, l'examen ne devient utile et le traitement n'est admis

qu'à la condition de servir à l'éducation, à la prévention précoce et à l'initiation des enfants aux soins dentaires.

La Division est en voie de préparer un matériel éducatif élaboré, approprié à l'orientation des services.

La Division a aussi rénové toutes ses formules d'examen, de traitement et de contrôle, en rapport avec les exigences du programme. En particulier, pour rendre plus efficace son programme d'éducation et de prévention, la Division met de l'avant le projet d'une formule d'excuse. On estime qu'en raison de l'orientation nouvelle des activités, un plus grand nombre d'enfants seront dirigés vers les bureaux des praticiens. En conséquence, cette formule acceptée d'autorité par le Ministère de l'éducation, l'Association dentaire provinciale et le Ministère de la santé, indiquerait, entre autres avantages, une collaboration étroite des intéressés en vue d'intensifier notre propagande pour la conservation des dents.

En plus, la Division prévoit un Service de bien-être dentaire pour les enfants dont les parents sont économiquement faibles. Ce service consiste en des soins curatifs donnés dans le but de soulager les jeunes patients. Ont droit à ces services, tous les enfants d'âge pré-scolaire et d'âge scolaire des familles déclarées indigentes sur recommandation écrite des Services sociaux. Une demi-journée ou une journée tout au plus par semaine, selon les besoins locaux, est consacrée à ce travail dans les bureaux dentaires des unités sanitaires.

Actuellement les dentistes responsables de la Division de l'hygiène dentaire publique se répartissent comme suit: un

directeur, diplômé en hygiène dentaire publique; trois dentistes hygiénistes régionaux et trois autres dentistes poursuivant présentement leurs cours à l'École d'hygiène de l'Université de Montréal; 27 dentistes cliniciens à plein temps; 26 dentistes cliniciens à temps partiel. En 1960, la Division comptait six dentistes cliniciens à plein temps et 78 dentistes cliniciens à temps partiel.

Au sujet de l'équipement et des fournitures dentaires: 47 unités sanitaires ont un cabinet dentaire avec équipement complet, (trois autres équipements sont sur le point d'être installés dans trois autres unités sanitaires et 15 de ces équipements seront bientôt dotés d'appareils à grande vitesse). Un catalogue de fournitures dentaires renseigne sur le matériel qui est gardé par le Ministère en magasin et qui peut être réquisitionné.

Enfin, l'organisation de la Division de l'hygiène dentaire publique, sur le plan professionnel, est en marche, et déjà elle devient un organisme responsable sur lequel on peut compter; c'est pourquoi elle commande la coopération de tous les dentistes.

Nous croyons que cette discipline hiérarchique constitue une structure de base importante pour la profession et qu'elle augmente son prestige, au sein même du Ministère aussi bien que parmi toute la population. Nous souhaitons que la profession comprenne l'importance d'un tel programme, reconnaisse officiellement les fonctions des dentistes qui en sont responsables et enfin, concède que l'hygiène dentaire publique puisse devenir un domaine spécialisé de la dentisterie.

Hôtel du Gouvernement

Comment pourrez-vous faire face aux frais fixes de votre cabinet, si vous tombez malade ou si vous subissez un accident? Evidemment grâce à une assurance qui couvre les frais fixes du cabinet. Plus de 2,000 dentistes font partie d'un plan d'assurance qui couvre ces frais fixes de cabinet et qui est patronisé par l'Association dentaire canadienne. Si vous désirez vous protéger contre ce risque, écrivez dès maintenant aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

Average income of
Canadian dentists 1962

Moyenne des revenus des
dentistes canadiens, en 1962

Bureau of Economic Research

Bureau des recherches économiques

The average income of Canadian dentists rose 11 per cent between 1961 and 1962 to \$13,707 (Table 1). More than one-third of the dentists earned \$15,000 or more. Dentists retained their fourth place position among income earners, preceded by physicians, lawyers and engineers (Figure 1).

Le revenu moyen des dentistes, au Canada, s'est élevé à \$13,707, soit de 11 pour cent, entre 1961 et 1962 (Tableau 1). Plus du tiers des dentistes ont gagné \$15,000 et plus. Les dentistes ont conservé le quatrième rang chez les contribuables, à la suite des médecins, des avocats et des ingénieurs (Figure 1).

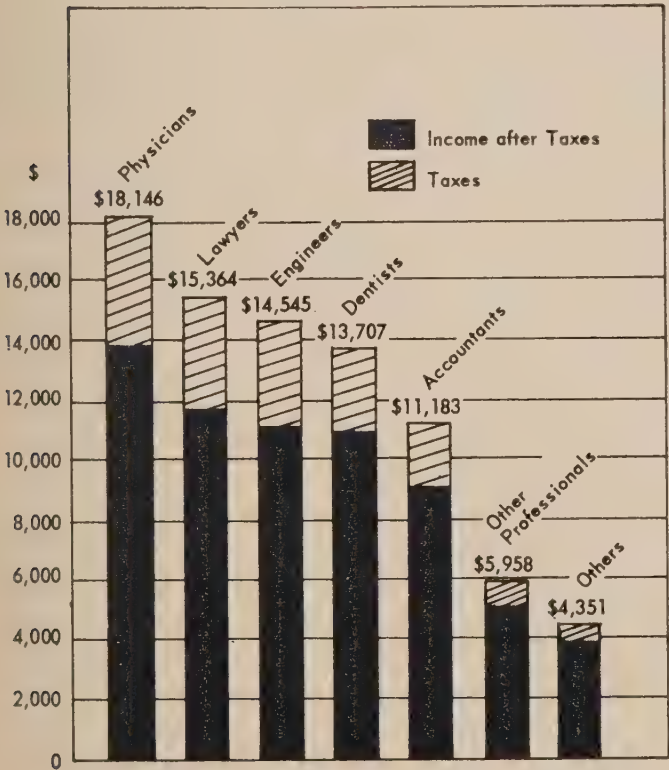


FIGURE 1 Average income of Canadian taxpayers in 1962 • Revenu moyen des contribuables canadiens en 1962.

L'exercice de sa profession fournit au dentiste \$12,743 à son revenu total; \$214 lui viennent de salaire et \$750, d'autres sources. L'impôt accapare 19 pour cent de ses revenus, lui laissant un solde de \$11,044.

LES MOYENNES VARIENT BEAUCOUP SELON
LES PROVINCES

Les revenus moyens varient beaucoup d'une province à l'autre. Les dentistes des cinq provinces de l'ouest ont eu, en moyenne, des revenus plus considérables que ceux de l'est. Les dentistes d'Alberta ont eu les revenus moyens les plus élevés, soit \$16,898, et ils sont suivis par ceux de l'Ontario dont la moyenne est de \$15,354. A l'autre bout de l'échelle, on trouve les provinces de l'Ile-du-Prince-Edouard (\$9,429) et du Québec (\$9,615).

TABLE 1 Average income before and after taxes and average tax of Canadian taxpayers, by occupation, 1962 • Revenu moyen avant et après déduction de l'impôt et impôt moyen des contribuables canadiens classés selon leur occupation, 1962.

Occupation	Average income Revenu moyen		Average tax Impôt moyen	Average tax as percentage of average income Impôt moyen en pourcentage du revenu moyen
	Before taxes Avant déduction de l'impôt	After taxes Après déduction de l'impôt		
Physicians and surgeons médecins et chirurgiens	\$18,146	\$13,900	\$4,246	23.4
Lawyers and notaries avocats et notaires	15,364	11,766	3,598	23.4
Engineers and architects ingénieurs et architectes	14,545	11,174	3,371	23.2
Dentists dentistes	13,707	11,045	2,662	19.4
Accountants comptables	11,183	9,122	2,061	18.4
Other professionals autres prof. libérales	5,958	5,107	851	14.3
All others tous les autres	4,351	3,942	409	9.4
Total	4,436	4,004	432	9.7

The dentist's income was made up of \$12,743 from practising his profession, \$214 from salary and \$750 from all other sources. Income tax amounted to 19 per cent of all earnings, leaving the dentist with \$11,044.

PROVINCIAL AVERAGES RANGE WIDELY

Average earnings varied greatly from province to province. Dentists in the five western provinces had higher average incomes than those in the five eastern provinces. At \$16,898 Alberta dentists had the highest incomes, followed by Ontario dentists with \$15,354. At the other end of the income scale were the provinces of Prince Edward Island (\$9,429) and Quebec (\$9,-615) (Table 2).

The figures for some provinces may not be entirely reliable. This is because the sampling technique used in compiling income statistics may result in inaccuracies when analysing small groups of income earners.

On ne peut pas se fier entièrement aux chiffres de certaines provinces: les techniques d'échantillonnage utilisées pour compiler les statistiques sur les revenus, quand il s'agit d'analyser les revenus de petits groupes de contribuables, peuvent être l'objet d'erreurs.

LES REVENUS PROVENANT DE L'EXERCICE ONT DOUBLÉ DEPUIS 1952

La moyenne des revenus des dentistes, entre les années 1952 et 1962, a augmenté beaucoup plus rapidement que celle des membres d'autres professions. Les revenus des dentistes ont augmenté de 93 pour cent, tandis que ceux de tous les contribuables se sont accrus de 35 pour cent (Figure 2). Les impôts payés par les dentistes ont évidemment augmenté plus rapidement que leurs revenus: en 1962, ces impôts étaient 125 pour cent plus élevés que ceux payés en 1952.

TABLE 2 Average income of dentists in 1962 • Revenu moyen des dentistes en 1962.

Province	Average income Revenu moyen	Province
Alberta	\$16,898	Alberta
Ontario	15,354	Ontario
Manitoba	15,092	Manitoba
Saskatchewan	14,538	Saskatchewan
British Columbia	14,108	Colombie britannique
Newfoundland	12,762	Terre-Neuve
New Brunswick	12,059	Nouveau-Brunswick
Nova Scotia	10,272	Nouvelle Ecosse
Quebec	9,615	Québec
Prince Edward Island	9,429	Ile-du-Prince-Edouard

INCOME FROM PRACTICE DOUBLES SINCE 1952

In the ten year period 1952-62, the average income of dentists increased much more rapidly than the incomes of members of other professions. While incomes for all taxpayers rose 35 per cent, dentists' in-

Durant la même période, le revenu net provenant de l'exercice a doublé. Plusieurs raisons expliquent cet état de choses. Le nombre des citoyens par rapport à un dentiste est actuellement plus grand qu'il y a dix ans. La profession dentaire a grossi ses effectifs plus lentement que les

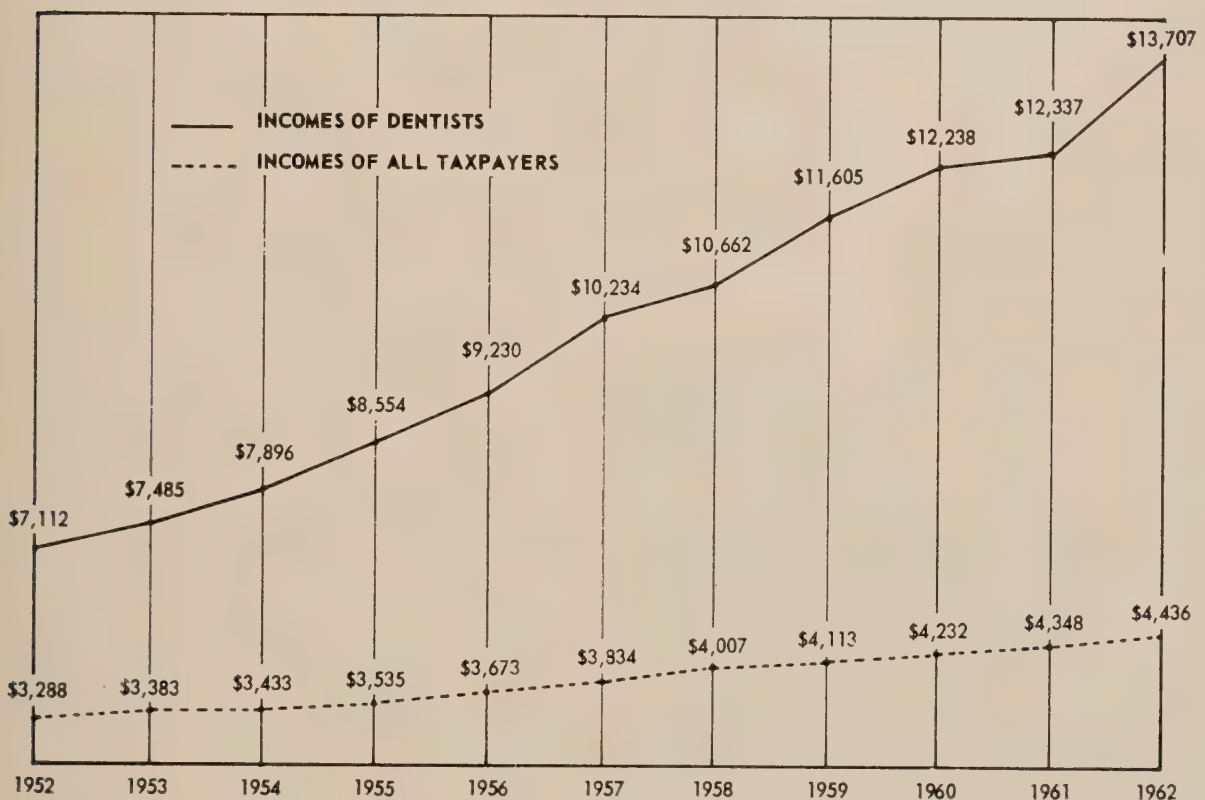


FIGURE 2 Incomes of dentists and all Canadian taxpayers, 1952-62 • Comparaison des revenus des dentistes avec ceux de tous les contribuables, 1952-62.

come rose 93 per cent (Figure 2). Of course, tax paid by dentists grew more quickly than their incomes; by 1962 it was 125 per cent higher than the tax paid in 1952.

During the same period, net income from practice doubled. There are several reasons for this. The number of people per dentist is greater now than ten years ago. The dental profession has been increasing at a far slower rate than other professions. With the rising demand for dental services, dentists are providing more services at higher fees. In the process, dentists are managing their practices more efficiently and economically. Although the dentist's net income from his practice increased 100 per cent, the fees paid by his patients have increased only 42 per cent.

autres professions. Les dentistes, à cause d'une plus grande demande pour des services dentaires, prodiguent plus de services à des honoraires plus élevés. En même temps, les dentistes ont organisé leur exercice sur une base plus productive et plus économique. Quoique la moyenne des revenus professionnels du dentiste ait augmenté de 100 pour cent, les honoraires qui lui sont versés par ses patients n'ont augmenté que de 42 pour cent.



Quebec, site of the C.D.A. National Convention in May, is the metropolitan centre of a district extending from Trois-Rivières to Gaspesia and the north shore of the St. Lawrence. Transportation by water, railway, highway and aeroplane enhances present-day demands and expands to meet the needs of the population. Quebec Bridge, which spans the mighty St. Lawrence, is one of the city's landmarks.

Preparation of Fluoride-Phosphate Solution for Topical Caries Prophylaxis

Gordon Nikiforuk, School of Dentistry, University of California at Los Angeles, U.S.A.

Acid fluoride-phosphate solution for topical application appears to offer advantages of caries protection without causing discoloration of the teeth. The solution is prepared in the following manner:

To approximately 700 ml. of distilled water, in a litre plastic graduate, add 20 Gm. of sodium fluoride (reagent grade). When dissolved, add 6.3 ml. of concentrated orthophosphoric acid (85 per cent reagent grade), 5.9 ml. of concentrated hydrofluoric acid (50 per cent reagent grade) and make up to one litre with distilled water. Mix very thoroughly. The stock solution must be kept in a screw-capped, polyethylene bottle (glass bottles should not be used), and dispensed in a small plastic container for use with patients. The stock and dispensing containers should be tightly capped when not in use. The solution is stable indefinitely.

The technique for topical application is similar to that employed for stannous fluoride.

Fluoride-Impregnated Cements and Their Effect on the Activity of Interproximal Caries

G. M. Jinks. J. Den. Children 30:87, 1963.

The author investigated the effect of fluoride ion on the interproximal areas between the second deciduous molar and the first permanent molar and also, to a limited extent, between the two deciduous molars. *Syntrex* silicate cement was used as a vehicle into which was introduced sodium silicofluoride. The correct proportions of powder and liquid (two drops) were placed separately on a cool glass slab for mixing. Beside the two drops of liquid approximately fifteen mg. of sodium silicofluoride powder and 35 mg. of silver alloy were deposited—the latter to make the resultant cement radiopaque. Both the sodium silicofluoride and the alloy filings were then added to the liquid and spatulated until a homogeneous mixture was

obtained. To this mixture the silicate powder was added and all the components were spatulated to a stiff consistency. The resulting grey cement was used to restore the tooth.

As the first permanent molar erupted into the mouth, bilateral bitewing radiographs were obtained. Each tooth with a restoration of cement was designated a success, a failure or undetermined. The remaining quadrants were used as controls. Successes were recorded for those teeth that remained free of lesions when an interproximal cavity developed in the same tooth in the opposite quadrant from the one with the distal restoration of silicofluoride cement. Failures were recorded when a carious lesion developed on the proximal surface of the first permanent molar despite the presence of the fluoride cement. Undetermined was recorded for those teeth when no carious lesion developed in any interproximal surface.

The result, success for 73 per cent of the teeth treated, with an increase possible following further study, indicates that this method of prevention of carious lesions is practical and possible. Fluoride can be incorporated into cements placed in deciduous teeth without causing clinical damage to the pulp while creating a caries-preventive effect on adjacent teeth. The fluoride should be added to the cements commonly in use in dental offices in order to gain this beneficial result.

Our Professions on Trial

E. L. Haines. Ontario Med. Rev. 30:395, 1963.

Automation will increase the number of people whose incomes are not sufficient for their needs. This will come as the result of our changing economy and through no fault of the individual. To meet the competition of the marketplace labour must become more productive and automation is the answer. The result is less demand for manpower. With the increasing use of automation more people will inevitably become unemployed.

There are three classes of society in existence today — those who can pay for serv-

ices, those who cannot pay, and those who can only pay something on account.

The first class is fortunate in that the individuals are financially able to pay for their needs, including professional services. The second class will either do without professional services or depend upon welfare and the charity of the professions for them. The third class is composed of those who can only pay a little today, maybe nothing tomorrow. This group is the product of our economy and this is the class which presents the problem. In most families in Canada today, some member is either unemployed or temporarily employed. These are the ones whose incomes do not meet their needs and, yet, they are in too high an income bracket to be entitled to free professional services.

The organized professions must find ways and means of making services available to this group of society. They might follow the example taken by the legal profession in England. There the Law Society told parliamentarians that lawyers would take care of the needs of the people, administer the system and take the responsibility for the system if government would pay the bills for those who need help.

In Canada the organized professions can similarly lead the way in solving the problems of cost and payment. They can keep control of the profession within the profession and thus avoid conscription by government. Conscription only takes place when those required to fill the needs are not doing so.

Discoloration of the Teeth Associated with Oxytetracycline Administration to Premature Birth Children

E. V. Zegarelli et al. J. Den. Children 30:69, 1963.

Ninety-four children, aged two to twelve, 48 males and 46 females, included in this study were divided into two groups.

Group 1 was composed of 46 children, aged four to eight, 33 males and 13 females, each with a history of premature birth. In each instance, oxytetracycline hydrochloride-intravenous, dissolved in normal saline to a concentration of 1 mg./ml., was administered subcutaneously every twelve hours from birth to age 120 hours. The dosage was 0.005 Gm./Kg./12 hrs.

Group 2 was composed of 48 essentially normal children, aged two to twelve, 15 males and 33 females.

Thirty-two (70 per cent) of the 46 prematurely born children in group 1 treated with oxytetracycline exhibited two or more teeth having a shade which was considered darker than normal. Of the 948 erupted teeth,

348 or 37 per cent fell into this dark shade group.

Only 14 (29 per cent) of the 48 control patients similarly examined exhibited two or more teeth having a shade considered to be darker than normal. Of the 1,022 teeth examined, only 110 or 11 per cent revealed such dark shades.

Marginal Penetration Around Dental Restorations

P. K.-J. Yen. D. Progress 3:232, 1963.

Rhesus monkeys were used to show the degree of penetration of radiocalcium-labeled saliva around and through amalgam, cement, and silicate cavity restorations. Amalgam appeared to be the best, zinc phosphate cement intermediate, and silicate the poorest filling material as far as marginal adaptability to the cavity wall and permeability of radiocalcium into the material was concerned.

The Ability of a Prednisolone Solution to Eliminate Pulpal Inflammation

J. H. Mosteller. J. Pros. Den. 13:754, 1963.

Postoperative thermal sensitivity has long been a problem when extensive restorative treatment is provided. This sensitivity depends on (1) health of the pulp, (2) proximity of the gold restoration to the pulp, and (3) the number of dentinal tubules covered by the gold restoration.

There is evidence that certain corticosteroid solutions eliminate or reduce thermal sensitivity in most teeth. This is attributed to the anti-inflammatory action of the corticosteroid.

An effort was made to evaluate histologically the ability of a prednisolone solution to decrease or eliminate pulpal inflammation under deep cavity preparations. Deep cavities were prepared in non-carious human teeth with a No. 35 inverted cone carbide bur in an air turbine handpiece. The application of the bur was intermittent and an air-water spray was used as a coolant. Half of the teeth were treated with the prednisolone solution and the other half were used as controls.

All cavities were filled with zinc oxide and eugenol cement and the teeth were sacrificed six days after operative intervention.

All untreated teeth showed marked inflammatory changes within their pulp. In general, the severity of the pulpal injury varied directly with the depth of the cavity preparation. The teeth treated with prednisolone demonstrated pulpal inflammation, but to a less degree.

Since the solution does not insult the pulp, but actually reduces pulpal damage from deep cavity preparation, and since the clinical studies have proved the ability of the solution to reduce or eliminate postoperative thermal sensitivity in a remarkably high percentage of teeth, its routine use in restorative dentistry may be indicated.

Pulp Damage by Induced Inflammation

C. A. Ostrom. *D. Progress* 3:207, 1963.

The displacement of odontoblast nuclei into the cut dentinal tubules subjacent to a cavity preparation is regarded as the earliest observable response of the pulp to minimal inflammatory trauma. Tests were made to see whether the mechanism responsible is aspiration of nuclei by evaporation or expulsion of nuclei by intrapulpal pressure. Rating of sections according to 5 degrees of odontoblast displacement showed a direct relation ($P < 0.001$) between induced inflammation and degree of damage. The lack of other histologic evidence of injury supports the contention that only minimal trauma was imposed. No correlation was found between degree of displacement and dentine remaining in the cavity. Applications to clinical practice include the need for adequate air-water cooling of cavity preparations and maintaining moist operative fields.

Scleroderma

G. W. Wade. *D. Progress* 3:236, 1963.

Scleroderma is a systemic disease which may have oral manifestations causing difficulty in dental treatment and prognosis. Common sites of oral involvement are the tongue, soft palate and larynx. The oral mucosa may become thin, pale, tender, and rigid and have poor reparative properties. Decreased size of the oral commissure and inelasticity of the lips make access to the areas of treatment difficult. Increased pigmentation of the skin is often seen. There may be ulcerations about the head and face, loss of facial contour, facial hemiatrophy, and alterations in the speech pattern. Areas of calcific deposition are seen on x-ray. Intra-oral x-rays usually show abnormal widening of the periodontal membrane space. At various stages of the disease it is difficult to differentiate scleroderma from dermatomyositis, systemic lupus erythematosus, and scleredema adultorum, respectively. The disease may alternate between activity and remission and be arrested at any time, with or without treatment.

Relief of Hypersensitivity to Temperature Change

W. S. Monica. *D. Progress* 3:164, 1963.

Twenty-one patients were treated with buccal alpha amylase for hypersensitivity to thermal variation. Clinically, all presented some degree of gingival recession, a condition which permits pulpal irritation and eventual inflammation; the result is painful response to the daily stresses of temperature extremes such as occur in food, drink, and toothpaste. Alpha amylase is an anti-inflammatory enzyme which removes the pulpal exudate, reducing internal heat and raising the pain threshold. Six months after treatment, 16 patients with mild to moderate recession were asymptomatic. Two others required one or two further treatments. Three patients with severe gingival recession received no relief.

Conditioning the Mouth for Dentures

R. W. Bruce. *D. Progress* 3:262, 1963.

Tissue irritation under poorly fitting removable dentures is a common problem that has concerned the profession for many years. Soft lining materials have been suggested for those patients who cannot leave their artificial teeth out long enough for the tissue to heal.

A method is described for recording the contour of the edentulous mouth on a pantographic device. Changes can be compared and evaluated.

Three commercial soft liners were studied. There was no difference between them in results.

Fifteen patients were observed and treated. Records of the contour of the tissue were made before treatment, after treatment with a liner, and then 72 hours after removing the dentures. Tissue almost returns to normal after treatment with a soft liner, but there is a small amount of further change after the dentures have been removed.

Change of Address

Subscribers to the *Journal of the Canadian Dental Association* should notify the Managing Director, 234 St. George Street, Toronto 5, Ontario, of their change of address before the 20th of the month, to become effective the following month.

Dental care for senior citizens

Nearly two-thirds of Canadians over the age of 65 have lost all their natural teeth. Because they consider tooth loss inevitable and because they do not sufficiently value their natural teeth, the majority of these people do not visit a dentist regularly, do not avoid cariogenic foods, and do not brush their teeth as often as they should. Whatever dental treatment services our senior citizens receive are largely terminal in nature. These facts emerge from a brief submitted some months ago by the Canadian Dental Association to a Senate of Canada Special Committee on Aging.

This deplorable situation cannot be alleviated by diverting our limited resources from other vital areas or by stretching these resources beyond reasonable limits so as to encompass the treatment needs of the aged, however desirable and necessary this may be. Instead of reducing the problem, such an approach would merely perpetuate it as generation after generation of people reach their mid-sixties with few or no natural teeth. Only by developing and fostering proper dental health habits in childhood can the foundation for good dental health in later years be laid.

This is not to say that the dental needs of the aged should simply be brushed aside. Instead, the Association has called for a four-point approach comprising (1) comprehensive, private practice-based dental care for two clearly defined groups of welfare recipients; (2) initiation of a demonstration project to evaluate the feasibility of providing dental care to the chronically ill or homebound; (3) establishment of dental departments at hospitals and institutions for the aged; and (4) fluoridation of all communal water supplies.

While treatment for all senior citizens may be beyond our reach, it does appear feasible to establish comprehensive dental treatment programs for Old Age Assistance recipients (aged 65-70) and Old Age Security Supplementary Allowance recipients (aged 70 and over). At present such programs exist only in the western provinces. Dental care in these programs is rendered by private practitioners. The Association has recommended that similar programs be started in other provinces. Such programs should be comprehensive in scope — providing clinical examination, prophylaxes, bitewing radiographs, silicate and amalgam restorations, and extractions. Administration should be the responsibility of the provincial dental association as is the case with certain existing programs of this nature. Costs should be met by government in the same way that costs of other benefits for these two groups of welfare recipients are financed. Since they already receive other welfare benefits no additional administrative machinery would be required to identify them.

The profession is likewise aware of the problems of homebound, non-ambulatory, aged persons. A local dental society in one of our large metropolitan centres is investigating the feasibility of developing a dental home care program for the homebound. The Canadian Dental Association is prepared to

co-operate in a demonstration project of this kind. Similar programs should be developed locally by the profession in consultation with local health agencies. Patients who are able to pay for necessary dental care should be encouraged to do so. For public assistance beneficiaries the cost of dental care could be met under the arrangements proposed for OAA and OASSA recipients.

Patients in nursing homes and other institutions too small to have their own dental departments should develop similar arrangements for their patients' dental care. Non-ambulatory patients could be treated by visiting dentists, whereas patients who can go to a dentist's office should be cared for there.

These proposals generally accord with the views of the Royal Commission on Health Services. They should be implemented without undue delay.

Un obstacle au recrutement des futurs dentistes

Le nombre des inscriptions en première année dans les écoles dentaires du Canada, au cours des dernières années, a été inférieur à la capacité maximum de ces écoles. Le nombre des demandes semble considérable, mais il est loin de la réalité puisque, apparemment, les étudiants intéressés à la chirurgie dentaire font une demande d'admission à plus d'une université. En outre, certains étudiants qui ont été acceptés ne s'inscrivent pas par la suite. En 1962, leur nombre s'élevait à 15 pour cent des étudiants acceptés.

Les frais de scolarité qui sont assez élevés constituent une difficulté redoutable, car d'après des chiffres fournis par le Bureau fédéral de la statistique, en 1963, il en coûte plus cher pour devenir dentiste que pour exercer n'importe quelle autre profession.

Tant que les études seront aussi coûteuses, on ne pourra en général recruter des dentistes qu'au sein des familles fortunées. Une enquête entreprise pour le compte de la Commission royale d'enquête sur les services de santé révèle en effet qu'en 1961, 20 pour cent des parents d'étudiants en chirurgie dentaire avaient un revenu annuel approximatif d'au moins \$10,000.

De plus, un grand nombre d'étudiants, pour ne pas dire la majorité, terminent leurs études, ici dans notre province, avec des dettes considérables contractées envers des organismes officiels qui ont des systèmes de prêts tels que le Collège des chirurgiens dentistes de la province de Québec, la Fondation Kellogg, le Prêt d'honneur et le Ministère de l'éducation ou d'autres sources.

Des statistiques compilées chez une cinquantaine d'élèves finissants de la Faculté de chirurgie dentaire de l'Université de Montréal, au cours de l'année académique 1964-65, montrent que la moyenne des dettes se chiffre à \$3,197.00, se répartissant comme suit: \$500 (2), \$1,000 (3), \$1,500 (1), \$2,000 (4), \$2,500 (3), \$3,000 (7), \$3,500 (1), \$4,000 (1), \$4,500 (1), \$5,000 (8), \$11,500 (1).

Au nombre des 42 finissants qui ont répondu à un questionnaire, seulement neuf n'ont pas de dettes en terminant leur cours et, de ce nombre, il y en a dont les études ont été payées par le Corps dentaire royal canadien.

Face à ce problème, les autorités compétentes en la matière s'émeuvent et tentent d'y trouver des solutions. Parmi les suggestions soumises à la Commission Hall pour aider les étudiants à payer le coût de leurs études professionnelles, des mémoires offraient des moyens divers.

Ainsi l'Association dentaire canadienne préconise la réduction des frais et la création d'une caisse de prêt. La Société dentaire de Terre-Neuve recommande l'établissement d'un programme de bourses d'études et d'une caisse de prêt. Le ministère de la Santé du Nouveau-Brunswick propose que l'on subventionne les études en chirurgie dentaire en s'inspirant du Programme d'instruction pour la formation d'officiers des forces armées, établi le ministère de la Défense nationale; les intéressés seraient tenus de servir la province pendant un certaine période après l'obtention de leur diplôme. La Société dentaire du Nouveau-Brunswick exprime à peu près la même idée. Le Collège des chirurgiens dentistes de Saskatchewan préconise l'octroi aux étudiants qui ont de bonnes notes de bourses d'entretien suffisantes pour payer toute la formation en chirurgie dentaire. L'Association dentaire d'Alberta recommande une revision du programme actuel de bourses d'études, d'allocations, de subventions et de prêts à faible intérêt destinés aux élèves d'écoles secondaires et aux étudiants qui se destinent à la chirurgie dentaire. Par ailleurs la Faculté de chirurgie dentaire de l'Université de Manitoba propose l'octroi de bourses d'études et d'entretien pour acquitter les frais encourus par les étudiants en chirurgie dentaire.¹

On voit dans l'énumération de tous ces moyens que l'accent est mis sur l'aide du gouvernement aux étudiants. Cependant, les autorités des écoles dentaires du Canada sont conscientes de ce problème et elles sont en train de tenter de diminuer les frais de scolarité que doivent verser les étudiants.

G. de M.

1. Canada. Rapport de la Commission royale d'enquête sur les services de santé. 1964—Volume 1. Ottawa, L'Imprimeur de la reine, 1964.

Joignez-vous au plus de 2,400 dentistes dont les familles sont protégées contre les frais hospitaliers et médicaux, grâce au plan d'assurance-santé de l'Association dentaire canadienne. Ce plan les protège à fond contre les dépenses occasionnées par la maladie et les blessures, chez le médecin, le chirurgien ou à l'hôpital. On peut obtenir des renseignements détaillés en écrivant aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

L'Association

Cinquième Conférence des secrétaires

Les secrétaires des dix membres corporatifs de l'Association dentaire canadienne ont tenu leur Conférence annuelle, à Toronto, les 30 novembre et 1er et 2 décembre derniers. Une gamme variée de sujets ont été discutés. Cette Conférence annuelle est patronisée conjointement par l'Association dentaire canadienne et les dix organismes provinciaux. Le président de la Conférence de cette année était le docteur Robert M. LeBlanc, du Collège des chirurgiens dentistes de la province de Québec. Les secrétaires ont élu le docteur Gordon Campbell, du Manitoba, comme président de la Conférence de l'an prochain. Cette réunion a été honorée par la présence des docteurs Don W. Gullett, secrétaire de l'A.D.C., qui a pris sa retraite, en décembre dernier, et par celle du docteur Wesley J. Dunn, qui y assistait pour la dernière fois.

Réunions de conseils et de comités de l'A.D.C.

Des conseils et des comités se sont réunis ou se réuniront prochainement au secrétariat de l'A.D.C., de même que des groupes formés pour discuter de questions spéciales.

Voici les dates de ces assemblées:

les 11 et 12 janvier — Comité spécial sur l'assurance commerciale: président, M. V. J. Keenan;

le 20 janvier — Conférence des directrices des Ecoles d'hygiénistes dentaires: présidente, Mme J. R. Burnham;

le 21 janvier — Conférence au sujet des assistantes dentaires: président, H. R. McLean, doyen;

le 22 janvier — Comité des services auxiliaires: président, H. R. McLean, doyen;

les 1 et 2 février — Conseil d'hygiène dentaire: président, A. R. S. Gray;

les 15-18 février — Conseil exécutif: président, Rémy Langlois;

le 1er mars — Comité national de recrutement: président, G. T. Mitton;

les 16 et 17 mars — Conférence sur l'enseignement de la prothèse: président, Jean Nadeau;

les 18 et 19 mars — Conseil d'enseignement: président, J. McCutcheon;

les 29 et 30 mars — Comité des services dentaires: président, R. A. Clappison;

L'assemblée annuelle du Conseil des fiduciaires du Fonds canadien pour l'enseignement dentaire aura lieu les 22 et 23 mars, à Toronto.

Au Parlement fédéral

Le Sénat sanctionne la création du Collège royal

Le Sénat, après avoir entendu la troisième lecture du Bill no S44 pour incorporer le Collège royal des chirurgiens dentistes du Canada, l'a voté, le 25 novembre 1964. Le bill a été retourné à la Chambre des Communes pour y être ratifié.

Le 23 novembre, une délégation de l'Association dentaire canadienne, qui avait demandé le bill, a assisté à la séance du comité du Sénat qui étudiait ce projet de loi. Cette délégation se composait de Rémy Langlois, président de l'Association Mervyn A. Rogers, président du comité des spécialistes et de la spécialisation, qui avait proposé cette création, Don W. Gullett, Wm G. McIntosh et Me Gordon D. Watson, l'avocat de l'Association.

Canada

Les P.C.S.D.I. versent une subvention au Fonds d'enseignement

Les Plans canadiens des services dentaires incorporés ont versé une somme de \$5,000 au Fonds canadien pour l'enseignement dentaire. Les P.C.S.D.I., qui offrent aux organismes dentaires une grande variété de services de comptabilité, est une compagnie sans but lucratif dont la charte exige que ses profits soient versés à l'enseignement dentaire. Cette subvention représente un montant qui s'est accumulé au cours des dernières années. M. M. E. Bower, vice-président du Fonds, au cours d'une cérémonie organisée dans ce but, a reçu le chèque des mains du docteur P. E. Willson, d'Oshawa, président des P.C.D.D.I. Le Fonds canadien pour l'enseignement dentaire entreprend actuellement une campagne de souscription chez les dentistes.

Le docteur Dunn nommé doyen à Western

Le docteur Wesley J. Dunn, de Toronto, a été nommé doyen de la nouvelle faculté de chirurgie dentaire créée à l'Université Western Ontario, à London. Cette nomination prend effet le 1er février 1965, selon une déclaration du président de l'Université Western, le docteur G. E. Hall.

Le docteur Dunn, diplômé de l'Université de Toronto, en 1947, a exercé sa profession jusqu'en 1956, alors qu'il devint registraire-secrétaire-trésorier du Collège royal des chirurgiens dentistes d'Ontario. Le docteur Dunn fait partie du conseil de la faculté de chirurgie dentaire et du Sénat de l'Université de Toronto. Il a participé au travail de plusieurs comités de l'Association dentaire canadienne, entre autres du comité des services dentaires, de celui chargé de la rédaction du mémoire à la Commission royale sur les services de santé et d'un autre à qui on a confié la tâche d'étudier le rapport de cette Commission. Durant plusieurs années, le docteur Dunn a été le rédacteur du Journal de l'Association dentaire canadienne. Il fut président, en 1958, de l'Association américaine des rédacteurs dentaires.

Le docteur Dunn a été très actif dans la campagne qui a résulté dans l'adoption de la fluoration par la ville de Toronto. Il est membre du Conseil des Gouverneurs du Women's College Hospital, à Toronto et il a toujours participé aux activités religieuses, scolaires et sociales de son milieu. Il est marié et père de trois garçons.

En annonçant cette nouvelle, le docteur Hall a déclaré: "Les plans de l'édifice, l'élaboration du curriculum et la nomination des professeurs sont des choses qui pressent et qui exigeaient la présence d'un doyen." La première classe pré-dentaire commencera l'automne prochain.

Articles sur l'hygiène dentaire dans les journaux du Manitoba

Des articles sur l'hygiène dentaire seront publiés, chaque semaine, dans le Winnipeg Free Press et le Free Press Weekly Prairie Farmer. C'est le comité des relations extérieures de l'Association dentaire du Manitoba qui a fait les contacts pour la publication de ces articles. L'Association signera ces articles plutôt que des dentistes en particulier. D'autres provinces, notamment l'Alberta, ont commencé à publier régulièrement des articles traitant d'hygiène dentaire.

Chronique internationale

Des rédacteurs honorent le docteur Gullett

L'Association américaine des rédacteurs dentaires, le 6 novembre, à San Francisco, ont décerné au docteur Don W. Gullett, qui est secrétaire de l'A.D.C., leur Prix pour services notables. C'est le docteur Edward F. Mimmack, de Buffalo, N.Y., qui a offert le prix en soulignant les services innombrables rendus par le docteur Gullett à la profession et à la littérature dentaires.

Le docteur P. G. Anderson est élu président du Collège américain des dentistes

Le docteur Percy G. Anderson, de Toronto, a été nommé président du Collège

américain des dentistes au cours de la dernière assemblée du Collège qui a été tenue à San Francisco. Le docteur Anderson est ancien président de l'Association dentaire canadienne et il fait partie du comité chargé d'étudier le rapport de la Commission royale d'enquête sur les services de santé. Le président du Collège, cette année, est le docteur Harry Lyons, de Richmond, Virginie.

Trente-et-un pays à l'assemblée de la F.D.I.

Les représentants de 31 pays ont participé à la 52e réunion annuelle de la Fédération dentaire internationale qui s'est déroulée à San Francisco, en même temps que le congrès de l'A.D.A. L'Association dentaire canadienne y était représentée par les docteurs Rémy Langlois, son président, Don W. Gullett et Wm. B. McIntosh. Le docteur Gullett, qui est membre du conseil de la F.D.I., a été élu vice-président de la Fédération. Le docteur Erich Müller, d'Allemagne, agit encore comme président et le docteur Knut Gard, de Norvège, comme président-élu.

L'Assemblée générale de la F.D.I. s'est réunie le samedi précédant et le samedi suivant le congrès de l'A.D.A. (les 7 et 14 novembre 1964); elle a étudié des rapports traitant de questions diverses, entre autres d'un système international pour la classification des maladies de la bouche et de l'établissement de standards internationaux pour les matériaux dentaires. L'Assemblée générale a officiellement adopté sa huitième spécification pour des matériaux dentaires — pour les matériaux à empreinte à base d'agar. La commission spéciale s'occupant de statistiques dentaires et buccales et celle qui étudie la standardisation des matériaux dentaires ont été créées permanentes.

L'Assemblée générale a aussi décidé de:

- tenir sa 54e réunion annuelle à Tel Aviv, du 10 au 17 juillet 1966. La F.D.I. aura sa 53e réunion annuelle à Vienne, en 1965;

- approuver la demande de l'Association dentaire de la Rhodésie du sud pour devenir membre régulier;

- sanctionner la demande du Colegio de Odontologos de Venezuela pour devenir membre correspondant;

- tenir son 14e congrès mondial à Paris, du 7 au 13 juillet 1967.

Le nombre des membres supporteurs de la F.D.I. se chiffrait à 5,524, le 29 octobre 1964.

Le docteur Pierson élu président de l'Association dentaire américaine

Le docteur Fritz A. Pierson, du Nebraska, a été intronisé comme le 101e président de l'Association dentaire américaine, au cours du congrès de cette association qui a eu lieu récemment à San Francisco. Le docteur Maynard K. Kine, d'Indianapolis, a été choisi président-élu. Le congrès de San Francisco a attiré le chiffre record de 23,118 congressistes, soit le nombre le plus élevé jamais atteint au cours d'un congrès annuel ordinaire de l'A.D.A. Seulement le congrès du centenaire tenu à New York avait amené plus de dentistes.

Le Bureau des Délégués de l'A.D.A. a décidé d'établir une agence nationale pour les corporations de services dentaires. Les délégués se sont prononcés en grande majorité en faveur de la création d'une agence indépendante de l'A.D.A., mais dont la majorité des directeurs "serait composée de membres de la profession dentaire, légalement qualifiés et en règle avec leur organisme respectif."

Les délégués, au cours de leurs délibérations, ont de plus imposé un moratoire de trois ans pour la reconnaissance de nouvelles spécialités; ils ont rejeté une résolution priant l'A.D.A. de reviser sa politique quant au support qu'elle accorde à l'aide apportée par le fédéral à l'enseignement dentaire, donc, ils s'y sont opposés; ils ont voté contre une résolution demandant à l'A.D.A. de "formuler son approbation et son appui au Plan de responsabilité individuelle"; ils ont ratifié une résolution demandant à tous les dentistes de mettre en garde leurs patients contre les dangers que comporte le fait de fumer.

En Angleterre, le Conseil Privé soutient la fluoruration

Un jugement du Conseil Privé britannique vient de rejeter, en Nouvelle-Zélande, une action alléguant que la fluoruration nuit à la "pureté" de l'eau. En voici le texte:

“L'eau de Lower Hutt (Nouvelle-Zélande) est sans doute pure à son état naturel, mais elle manque d'un élément naturel normalement trouvé dans l'eau dans la plupart des parties du monde. L'addition de fluor n'y ajoute pas d'impureté et l'eau ne demeure non seulement de l'eau pure, mais elle est grandement améliorée et elle est encore pure, sans élément étranger.” (Tiré du *All England Law Reports*, 25 août 1964, p. 179).

Organismes dentaires

C.C.D.P.Q.: résultat des élections

Lundi, 26 octobre 1964, a eu lieu, conformément à la Loi des chirurgiens dentistes de la province de Québec, l'élection générale des Gouverneurs qui devront régir les affaires du Collège pendant les quatre prochaines années.

Voici les résultats de cette élection:

District no 1: Marcel B. Archambault, Henri Brouillet, Roger Charette, Claude de Grandmont, Paul Dionne, Jean Guimond, Onil Hébert, Jean-Paul Lachapelle, Gérard Lussier.

District no 2: Herbert Caplan, John Chamard, A. J. Colle, Roger Coulombe, G. M. Dundass, R. F. Harvey, D. H. Muhlstock, L. H. Mussells, A. W. Oliver.

District no 3: Marius Crête, Conrad Godin.

District no 4: Louis Bernier, Leo-Paul Dubé, Rémy Langlois, Gustave Ratté.

District no 5: J. A. Giroux, Charles E. Gosselin.

District no 6: Lorenzo Picard.

District no 7: Aimé Caza.

District no 8: Paul-A. Lachance.

District no 9: Henri Provencher.

District no 10: Charles E. Simard.

District no 11: Roch Paradis.

Université de Montréal: Jean-Paul Lussier (représentant), Gérard de Montigny (substitut).

Université McGill: James McCutcheon (représentant), Gerald Racey (substitut).

Par vote unanime, le docteur Henri Brouillet a été réélu président du Collège pour un autre terme de deux années.

Sont les membres du conseil exécutif: Henri Brouillet, président; Lorenzo Picard, 1er vice-président; Marcel Archambault, 2e vice-président; Rémy Langlois,

président-sortant-de-charge; M. Le Blanc, registraire; et les docteurs Roger Charette, Claude De Grandmont, A. J. Colle, John Chamard, L. H. Mussells, Marius Crête, Louis Bernier, Julien A. Giroux.

Des officiers d'organismes dentaires de l'ouest se réunissent

Les présidents et les secrétaires des organismes dentaires provinciaux du Manitoba, de Saskatchewan, de l'Alberta et de la Colombie britannique se sont réunis, à l'automne, à Vancouver, pour discuter de problèmes communs. L'assemblée a étudié entre autres, la question des corporations de services dentaires, de législation, d'assurance-groupe, de groupes d'études et de congrès. La prochaine réunion sera organisée par l'Association dentaire du Manitoba.

Corps dentaire royal canadien

Conférence du Corps dentaire

Le directeur général des Services dentaires et les commandants des unités dentaires tenaient, du 22 au 25 novembre dernier, leur 15e conférence annuelle au Quartier général des Forces canadiennes à Ottawa (Ontario). Les dentistes et commandants de région présents étaient les suivants: le col. B. P. Kearney, Edmonton; le col. A. T. Roger, Trenton (Ont.); le col. R. H. G. Cunningham, Halifax; le col. R. B. Jackson, Montréal; le col. G. R. Covey, Camp Borden (Ont.); le lt-col. W. W. Anglin, Winnipeg; et le lt-col. C. M. Cornish, Ottawa.

La Commission des services dentaires des Forces armées — F.D.I.

Le brig. K. M. Baird, directeur général des Services dentaires des Forces canadiennes, assistait du 8 au 14 novembre à une conférence internationale sur l'art dentaire militaire, tenue à San Francisco (Californie) conjointement avec l'assemblée annuelle de l'Association dentaire américaine. Le brigadier K. M. Baird y fit un exposé sur l'emploi efficace de l'effectif dentaire dans les Forces armées.

Expédition à l'île de Pâques

Le 16 novembre 1964, le Cape Scott, navire-atelier de la Marine, quittait Halifax, avec l'approbation du gouvernement canadien pour transporter à l'île de Pâques, située dans le sud du Pacifique, une équipe d'hommes de science préposés aux recherches médicales.

Cette expédition, dirigée par le docteur S. C. Skoryna de l'Université McGill, avait obtenu des fonds de diverses sources, y compris l'Organisation mondiale de la santé et le Conseil de la recherche médicale du Canada.

Le maj. A. G. Taylor, d'Halifax, fut choisi pour participer à cette tâche intéressante qui consiste à faire le relevé biologique d'un peuple ancien et isolé avant que la civilisation moderne ne vienne tout changer. Pendant son séjour de deux mois à l'île de Pâques, il recueillera des données pertinentes: nombreuses empreintes, radiographies de crânes, films intra-buccaux, photographies faciales prises

de profil et renseignements connexes qui seront analysés plus tard par l'équipe. Les résultats de ces analyses seront employés par divers départements dentaires afin de trouver s'il existe une corrélation quelconque avec la fréquence DMF, l'alimentation, l'hérédité et les facteurs environnants.

Formation professionnelle

Les majors P. E. Fafard, de Victoria, et R. H. Headley ont été choisis, l'un pour suivre un cours de sept semaines, et l'autre, un cours d'une semaine portant sur la chirurgie buccale et la prothèse partielle à la United States Naval Dental School, Bethesda (Maryland), à partir du mois de janvier 1965.

Le major M. P. Quinn, de Vancouver, suit un cours de deux semaines sur la prothèse complète, depuis le 4 janvier, à l'University of Michigan, Ann Arbor (Michigan).

L'Association dentaire canadienne, au nombre des services qu'elle rend à ses membres, patronise des plans garantis d'assurance-vie et de pension, un plan d'épargne-retraite, un plan complet d'assurance-santé couvrant les frais hospitaliers, médicaux et chirurgicaux, un plan d'accident-maladie et un plan pour les frais fixes du cabinet. On peut obtenir des renseignements spécifiques sur ces plans en écrivant aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

National Convention News

Periodontists Set Program

The Canadian Academy of Periodontology will hold its annual scientific meeting in conjunction with the C.D.A. national convention at the Chateau Frontenac Hotel in Quebec City, May 31 and June 1-2. Academy secretary J. E. Speck, Toronto, has announced the following program:

MONDAY, MAY 31

- 9:00 a.m. Registration
- 11:00 a.m. L. E. Francis, McGill University: Drugs and their effect on oral disease.
- 2:30 p.m. R. H. Johnson, McGill University: Oral differential diagnosis.
- 3:30 p.m. J. G. Dale, University of Toronto: Bone resorption, tissue response to tooth movement and temporomandibular joint development.

TUESDAY, JUNE 1

- 9:00 a.m. Business meeting
- 11:00 a.m. W. F. Walford, McGill University: Periodontics and the diabetic.
- 2:30 p.m. Anders Bennick, University of Toronto: Some aspects of recent advances in synthesis and breakdown of collagen.
- 3:30 p.m. Report on the Royal Commission on Health Services—open meeting.

Canada and the Provinces

Saskatchewan College Donates \$1,000 to Education Fund

The Canadian Fund for Dental Education has received a grant of \$1,000 from the

College of Dental Surgeons of Saskatchewan. A resolution authorizing the grant was adopted at the fall meeting of the Council of the Saskatchewan College held in Regina, November 21-22, 1964. The Council also adopted a policy of making living memorial contributions to the Education Fund on the death of any member of the college.

Dental Column for Manitoba Papers

Weekly dental health articles are to be published in the Winnipeg *Free Press* and in the Free Press Weekly *Prairie Farmer*. Arrangements for the series of articles have been made by the public relations committee of the Manitoba Dental Association. Credit lines will refer to the dental association rather than to an individual author. Other provinces have instituted similar regular dental health articles—notably Alberta.

Dental Nurse Treatment for Yukon Children

According to press reports a modified experimental New Zealand type school dental service is said to be under way in northwestern Canada. Known as the Yukon School Dental Service Pilot Project, it provides educational and treatment services to grade 1 and 2 children from Whitehorse, Porter Creek and Carcross, Yukon Territory. Purpose of the program is to improve child dental health through education and systematic treatment. Children accepted into the project reportedly receive preliminary examination by a dentist from Whitehorse Dental Clinic who prescribes treatment to be performed by a school dental nurse. The nurse



Flanking J. C. Volker, vice-president of health sciences, University of Alabama, are M. C. Goldstein (l.) international president of Alpha Omega Fraternity, and J. A. Sherman (r.) Toronto. Dr. Volker received an award at Alpha Omega's recent convention in Toronto.

renders treatment, generally in the school, and also gives prophylaxes and topical applications of a fluoride solution. Complicated fillings and extractions are done by the dentist. Children are treated free of charge.

Press reports describe the program as a co-operative project of the Yukon Health Service and the Yukon Dental Association. It is said to be financially supported from federal and territorial funds.

'Open House' at Toronto Faculty, Feb. 14

Dental education will again be on public display when Toronto's Faculty of Dentistry stages 'open house' on Sunday, February 14. This annual event provides opportunity for everyone interested in dentistry — plus their families and friends — to visit the University of Toronto dental building and observe, through student exhibits and demonstrations, modern dental education in action.

The dental building is located at 124 Edward Street, Toronto, off University Avenue and immediately south of the Hospital for Sick Children.

National Dental Health Day March 17

National Dental Health Day will be observed this year on Wednesday, March 17. It will be one of the featured days during National Health Week March 14-20 sponsored by the Health League of Canada.

Recognizing that "Health is everybody's business," the Health League sponsors National Health Week in co-operation with the departments of health and education and many other organizations across the country. The week represents a co-ordinated effort to call to the attention of the Canadian people the necessity for promoting and conserving health by all possible means. Radio, television and newspapers co-operate to give extensive publicity to health matters during Health Week.

International Items

Alpha Omega Honours Dental Educator

J. F. Volker, vice-president of health sciences at the University of Alabama,

Report from Manitoba

Manitoba Dentur

Manitoba's battle of the dentures continues with unabated fury. On one side are the province's dentists. Opposed to them is the Association of Dental Technicians of Manitoba—the denturists. On the sideline is the Society of Dental Technicians of Manitoba representing 102 owners and employees of legally recognized dental laboratories. The legal technicians seek recognition and control of their own membership under a self-policing organization. They also want permission to repair dentures without a dentist's prescription. Denturists, on the other hand, demand the legal right of providing dentures directly to the public. Manitoba dentists support the legal technicians but are flatly opposed to the denturists' demands. Last year the provincial legislature established a special committee to sort out conflicting claims and propose a dental health policy for the province. This committee has since conducted hearings in Manitoba and elsewhere. Here, according to press reports and other sources, are some of the suggestions that were advanced at the Manitoba hearings:

DENTISTS FAVOUR TECHNICIAN INCORPORATION

The **Manitoba Dental Association** has recommended that dental technicians in the province be incorporated and control their own membership registration, quali-

fications and standards of training. The proposal was contained in a brief presented last November to the Legislature's special committee. Two other association proposals call for increased training facilities for dental auxiliaries and provisions that would enable persons now practising dentistry illegally to qualify as dental technicians.

DENTAL TECHNICIANS NEUTRAL

The **Manitoba Society of Dental Technicians**, however, does not oppose denturists' attempts to attain a legal right to work for the public. The society's spokesman, Bruce Thompson, told the special committee that it is neither for nor against the enactment of a law permitting denturists to deal directly with the public. Mr. Thompson said denturists should be properly "trained and certified" before they assume any part of the functions of a qualified dentist. He said the qualifications for denturists would have to be similar to those of dentists, but with "less scope."

His society also asked the provincial government to establish an official board to administer the affairs of dental technicians. This board should be empowered to regulate the industry by establishing qualifications, formulating a code of ethics, providing training and disciplining members.

was honoured at the international Alpha Omega Fraternity convention in Toronto, December 30. Dr. Volker received the Alpha Omega medal for extraordinary achievement in the art and science of

dental medicine. M. C. Goldstein of Atlanta, Georgia, international president of the fraternity, consisting of over 17,000 dentists throughout the world, made the presentation at a dinner meeting. Dr.

ttle Continues

DENTURISTS BYPASS DENTISTS

Meanwhile, the **Association of Dental Technicians of Manitoba** (denturists) admitted to the special committee that some of its members were bypassing dentists in making dentures for the public. In their brief the denturists reportedly said that "we are . . . referring our patients to medical doctors for examination prior to denture insertion and this seems to be working out extremely well." (This observation refers to the fact that the special committee is believed to be considering proposed legislation to legalize the making of dentures without a dentist's prescription. A key provision in this legislation reportedly states, that "no dental technician or denturist shall make, produce, construct, furnish or supply a complete upper or complete lower denture directly for the intended wearer thereof unless the intended wearer first obtains and delivers to the dental technician or denturist a certificate of oral health, issued by a registered dentist or duly qualified medical practitioner and dated not more than 14 days prior to receipt of such certificate by him.")

Referring to Austria where denturists make not only complete upper and lower dentures but also precision partial removable dentures as well, the denturists' brief reportedly said they were not asking for such all-embracing legislation. It was

hoped, however, that in a few years their industry would "be capable of offering these services as well."

The denturists also proposed a two-year, university-level course modelled "after a program of studies now in effect in Alberta." The course would be designed to give the knowledge necessary so that, eventually, denturists would be qualified to work for a patient without a certificate of oral health.

MANITOBA FACULTY URGES CONTROL OF DENTURISTS

In a separate submission to the provincial legislature's special committee, the **University of Manitoba Faculty of Dentistry** urged the provincial government not to allow denturists to deal directly with the public. Dean J. D. Neilson asked that denturists should only be permitted to work under the supervision of the dentist.

Denturists should not be permitted to practise until they have obtained licences granted upon successful completion of a series of written and clinical examinations, Dr. Neilson pointed out. These examinations should be of an "adequate but not unreasonable standard."

"If this recommendation is adopted, denturists should not be permitted to further enter the dental field," he said. "Ways and means should also be sought to ensure more effective enforcement of any regulations governing the activities of dental auxiliaries in the future."

Goldstein, in presenting the award, praised Dr. Volker for his help to the fraternity in establishing the Hebrew University Hadassah School of Dental Medicine founded by Alpha Omega at Ein-Karem,

Israel.

Attending the award presentation were Dean R. G. Ellis of the University of Toronto and W. J. Dunn of the University of Western Ontario.

F.D.I. President Assails 'Denturist' Legislation

The dental profession must vehemently oppose attempts by some dental laboratory technicians to become 'denturists,' Erich Müller of Germany, F.D.I. president, told dentists at the 105th annual session of the American Dental Association, San Francisco, November 9, 1964. Dr. Müller, who is also president of the German Dental Association, emphasized that the profession must work to improve "the training and the economic basis of the dental laboratory technician." But he warned against legislation passed in some countries which allows the technician to perform intra-oral services. "Such a development, which means in practice the introduction of a privileged dental laboratory technician who wishes to give himself the status of a 'denturist' must be vehemently opposed, but not through narrow-mindedness nor for fear of competition."

Endodontic Meeting in Spain

Program details for the Third Annual Symposium on Endodontics have been announced by convention secretary José Navarro Ferrero of Barcelona, Spain. The seven-day meeting is scheduled for Barcelona, May 2-8. Canadian dentists have been invited to attend. Scientific sessions on the use of corticosteroids in endodontics, pulp devitalization, chemical and biological cleansing of root canals, and enzyme therapy will be supplemented by clinical demonstrations and table clinics. Attractive social activities are also scheduled. Further information may be obtained from Canadian Dental Association Headquarters.

ORCA Congress at Utrecht, Netherlands, in 1965

The ORCA (European Organization for Research on Fluorine and Dental Caries Prevention) Congress 1965 will be held at Utrecht, Netherlands, June 8-11, 1965.

"Clinical testing of agents for the prevention of dental caries" is the main topic

of the meeting. Essayists on the main topic have already been designated. Others who desire to present a brief 'free paper' should communicate the title of their paper, before December 1, 1964, to the congress secretary: B. Houwink, Laboratorium voor Microbiologie, Catharijnesingel 59, Utrecht, Netherlands. Summaries of free papers must be submitted to the congress secretary before March 1, 1965.

Oral Biologists to Meet in London

Dental and oral diseases will receive attention on an international scale at the Third International Conference on Oral Biology this year. To be held in London at the Royal College of Surgeons, June 14-16, 1965, the conference is sponsored by the International Association for Dental Research and supported by a grant from the Colgate Palmolive Company.

The program will cover six main themes: repair, genetics, neoplasia, fluid environment of the teeth, tooth form and structure, and connective tissues. Top ranking scientists from all over the world who are engaged in work on these subjects have been invited to participate at the meeting.

Registration closes on March 31, 1965. Tickets for the conference banquet, limited in number, will be issued in order of application. Early application is also advocated to ensure participants of satisfactory hotel accommodation.

The provisional program and further information, together with application forms for registration and hotel accommodation, may be obtained from the secretary, Local Organizing Committee, 371 Ordsall Lane, Manchester 5, England.

Dentists to Meet in Rio de Janeiro

Rio de Janeiro will be the site of the Second International and Ninth Brazilian Dental Congress which will be held July 18-24, 1965. Additional information may be obtained by writing P. F. Reis Filho, secretary, Brazilian Dental Society, Rua Da Baia, 570, C. Postal 2357, 5.º Andar, Minas Gerais, Brazil.

1965 ARPA Internationale Meeting in Switzerland

The site of this year's Arpa Internationale (periodontal) meeting has been moved from California to Basle, Switzerland, October 6-9, 1965. Events scheduled for the four-day meeting are:

Concilium parodontologicum: study of the epidemiology of periodontal diseases. (first day)

Reports and lectures: unsuccessful periodontal treatment; new techniques in oral surgery; periodontal diseases in children. (second and third days)

Free lectures. (second and third days)

Clinical demonstrations. (fourth day)

The 1965 Dr. H. C. René Jaccard Prize will be awarded at the opening meeting. All entries, to be submitted by registered mail, should reach Jean Matthey, secretary general, Arpa Internationale, 2 rue Bartolomi, Geneva, Switzerland, before March 31, 1965. The secretary general will supply instructions to competitors on request.

Dentists who wish to present 'free lectures' (maximum 15 minutes) at the meeting should write to Professor A.-J. Held, 30 rue Lombard, Geneva, Switzerland.

Oral Pathologists to Meet in Las Vegas

The 1965 annual meeting and seminar of the American Academy of Oral Pathology will be held March 31 to April 3, 1965 in Las Vegas, Nevada. Robert Lukes will present the annual seminar on "Lymphoid Lesions." Further information concerning this meeting may be obtained from S. M. Standish, Indiana University School of Dentistry, Indianapolis, Indiana, U.S.A.

Canadians Invited to N.Y. State Meeting

The 1965 annual sessions of the Dental Society of the State of New York will be held at the New York Hilton Hotel in New York City, May 2 - 5. Canadian dentists are invited to combine attendance at this scientific meeting with a visit to the 1965 New York World's Fair which will open on April 21.

Further information may be obtained from P. T. Phillips, secretary, The Dental Society of the State of New York, 30 East 42nd Street, New York, 10017, U.S.A.

Dental Medicine Group Meets in May '65

Canadian dentists are invited to attend the twenty-first annual conference of the Northwest Academy of Dental Medicine at Alderbrook Inn, Union, Washington, May 23-26, 1965. Guest speakers include Irving Stern of Seattle and Kaare Langeland of the School of Dentistry, State University of New York at Buffalo.

Further information may be obtained from Gladys Underwood, secretary-treasurer, 603 Selling Building, Portland, Oregon 97205, U.S.A.

Oral Pathology Course at Boston

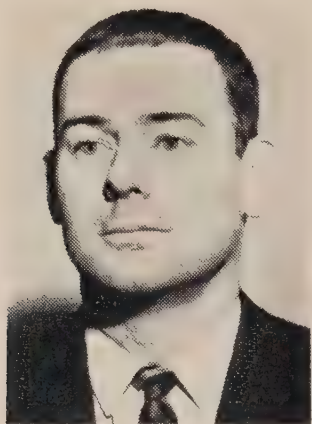
Boston University School of Graduate Dentistry offers a two-year graduate course in oral pathology. The program consists of one year of general pathology and one year of oral pathology and leads to a master of science degree. A research program is also included. Further information may be obtained from the Boston University School of Graduate Dentistry, 80 East Concord Street, Boston, Massachusetts 02118, U.S.A.

Various Graduate Courses at Detroit

Graduate courses to fulfil American specialty board requirements are offered in endodontics, oral surgery, orthodontics, paedodontics, periodontics, and prosthodontics at the University of Detroit School of Dentistry, 1965-66. All programs begin in September except oral surgery which begins in June.

Two Mott Foundation fellowships are available for paedodontic training. On completion of formal study, the graduate is expected to practise at the Mott Foundation Children's Dental Clinic in Flint, Michigan, at a stipend of \$6,000 for one year.

The Graduate School of the University of Detroit offers a master of science degree in oral biology.



G. E. Clark of Halifax is the current president of the Halifax County Dental Society.

For further information and applications forms, enquiries should be addressed to the Director of Postgraduate Studies, University of Detroit School of Dentistry, 2985 East Jefferson Avenue, Detroit, Michigan, 48207, U.S.A.

Next World Dental Congress in '67

Official word has it that the next World Dental Congress, sponsored by the Fédération Dentaire Internationale, is scheduled for 1967 and that it will be held in Paris. The congress is held every five years.

Dental Organizations

Halifax Dentists Meet

Halifax clinician John Findlay discussed temporomandibular joint dysfunction at the November 18, 1964 meeting of the Halifax County Dental Society. He described the principal aetiological factors involved — bruxism, stress, interfering contacts, periodontal disease, loss of teeth and resultant drifting of the remaining teeth, tipping, alteration of vertical dimension, and direct trauma.

The main complaint, said Dr. Findlay, is pain. He stressed the severity of pain associated with a joint disturbance, pointing out the varied and sometimes bizarre distribution of pain. The commonest sites of referred pain are the ears, throat, eyes

and the top of the head, Dr. Findlay explained. Other symptoms include dizziness, headaches, difficulty in biting, clicking or crushing sensation upon opening the mouth, and pain in the gums or teeth.

Temporomandibular joint dysfunction must be distinguished from trigeminal neuralgia, cranial tumours, tumours of the joint itself, carcinoma of the throat and middle ear infections.

Preventive measures include occlusal correction, early replacement of missing teeth, maintenance of correct vertical dimension and centric occlusion, periodontal care, and care in orthodontic tooth movement.

Re-elect Brouillet as President of Quebec College

Henri Brouillet of Montreal has been re-elected for a second two-year term as president of the College of Dental Surgeons of the Province of Quebec. Also elected as members of the Executive Council of the College were Lorenzo Picard of Sorel, first vice-president; Marcel Archambault of Montreal, second vice-president; Rémy Langlois of Quebec City, retiring president; R. M. LeBlanc of Montreal, registrar; Roger Charette, Claude De Grandmont, A. J. Colle, John Chamard and Lindsay Mussells, all of Montreal; Marius Crête of Trois Rivières; Louis Bernier of Quebec City; and J. A. Giroux of Sherbrooke.

The total 36 member board holds office for the next four years until 1968.

Pownall Named Ontario Secretary

President W. G. Bruce of the Royal College of Dental Surgeons of Ontario has announced the appointment of K. F. Pownall, Toronto, as new registrar-secretary-treasurer of the R.C.D.S. Dr. Pownall's appointment became effective on February 1. He succeeds W. J. Dunn who was recently named dean of the new dental school at the University of Western Ontario.

Early in December the college notified its members of Dr. Dunn's impending resignation and invited interested persons to submit applications for appointment to the position of registrar-secretary-treasurer. The R.C.D.S. Board of Directors gave careful consideration to all names submitted. Dr. Pownall was selected as the person best qualified for the appointment.



K. F. Pownall

Dr. Pownall has served the profession in several voluntary capacities over the years. A native Torontonians, he received his D.D.S. degree at Toronto in 1951. Dr. Pownall was in charge of a Junior Red Cross dental clinic in Newfoundland during 1951-52. Since then he has practised in suburban Mimico. Dr. Pownall is a past president of the West Toronto Dental Association and a former chairman of the Dental Public Health Committee of the Ontario Dental Association. For many years he was associated with the Department of Paedodontics, Faculty of Dentistry, University of Toronto, and with the

Dental Department of the Toronto Hospital for Sick Children.

Fabbro is President of Soo Dentists

N. J. Fabbro is the 1964-65 president of the Sault Ste. Marie Dental Association. He succeeds A. I. Timberg. J. V. Hart has been elected vice-president. Secretary-treasurer is R. J. Yakasovich.

Regina Society Welcomes New Members

Six new practitioners were welcomed by the Regina and District Dental Society at the November 17, 1964, meeting. They are:

H. A. Grimsrud who succeeds A. E. Chegwin as dental director for the Saskatchewan Department of Public Health;

E. N. Jenkins who moved to Regina from Weyburn;

James and Leslie Orpe, husband and wife, recent graduates from the University of Durham, England;

V. A. Petro, a graduate of McGill University; and

Afsar Sherkat, a native of Iran, who is a graduate of the University of Manitoba and the wife of a practising physician.

Newly elected officers of the Regina society are A. W. Geisthardt, president; G. J. Evenden, immediate past president; J. Kanee, vice-president; J. A. B. Robinson, secretary; and W. F. Rieger, treasurer.

Two other society members, W. F. Hancock of Fort Qu'Appelle and W. K. Martin of Regina, have been elected to the Council of the College of Dental Surgeons of Saskatchewan.

Martin is President of Saskatchewan College

W. K. Martin of Regina has been elected president of the Saskatchewan College of Dental Surgeons. Elected with Dr. Martin at the fall meeting of the Council of the college, November 21-22, 1964, was G. H. Jenzen, Prince Albert, who becomes vice-president.

At this meeting the Council adopted a

resolution to increase the annual dental registration and licence fee in Saskatchewan to \$150.

The 1965 annual meeting of the college will be held in Saskatoon, March 20 - 21.



W. K. Martin

Peace River Dentists Meet in Fort St. John

Numerous practitioners from northern Alberta and British Columbia attended a two day meeting of the Peace River Dental Society held in Fort St. John, last November 6 and 7. Vancouver oral surgeon A. E. Swanson was the featured clinician. Dean Wah Leung of the University of British Columbia dental faculty spoke on the recruitment of dental students, and H. J. Hann, regional dental consultant, commented on dentistry viewed as a state responsibility.

B.C. Denture Clinics Successful

The denture clinics sponsored by the College of Dental Surgeons of British Columbia have received excellent response both from the public and the dental profession. Valuable experience has been gained after three months of operation. G. I. Creasy of Vancouver, director of the clinics, is assisted by volunteers from the profession at large.

The purpose of these clinics is twofold: they provide a denture service at modest cost to people who in the past felt that their financial circumstances made it difficult for them to obtain this service from the profession; through newspaper advertising the clinics also draw public attention to the existence of this service without violating provincial regulations or the code of ethics.

Canadian Dental Schools

Elected

Dean **J. W. Neilson** of the Faculty of Dentistry, University of Manitoba, to the Executive Council of the American Academy of Periodontology.

Visitors and Lecturers at Manitoba U.

Recent lectures by visitors to the Faculty of Dentistry, University of Manitoba, include:

A series of lectures by **A. Bryan Wade**, author of the text *Basic Periodontology*, and head of the Department of Periodontology at the Royal Dental Hospital, School of Dental Surgery, University of London; a two-day course on "Current research in dental materials" by **R. W. Phillips**, professor of dental materials at Indiana University School of Dentistry; and a course on temporomandibular joint disorders by **Harry Sicher**, emeritus professor of anatomy, Loyola University, Chicago.

Also **B. Lilienthal**, senior lecturer in bacteriology at the University of Melbourne, Australia, who discussed food additives and prevention of dental caries; and **Max Horsnell**, professor of dental science at the University of Adelaide, Australia, who spoke on dental education.

Manitoba Undergraduates Take Part in P.H. Projects

Fourth year dental students at the University of Manitoba are conducting an epidemiological survey of grade 2 children in a Winnipeg suburb using the new WHO survey form as a field exercise in public health. Results of the survey will be used by the Manitoba health department to evaluate a treatment, educational and preventive program for grade 1 children in the same area.

Fourth year dental and first year dental hygiene students are helping to evaluate a new self-instruction course in dental public health produced by the U.S. Department of Health, Education and Welfare. Successful application of this

programmed instruction would permit reduction in classroom instruction, thus liberating more time for student participation in field exercises of practical public health significance.

Second year dental hygiene students are co-operating in a preventive and educational program for brain damaged children in St. Armant Ward of St Boniface Sanitorium.

Kleinberg Participates at Forsyth Anniversary

I. Kleinberg, assistant professor of oral biology (biochemistry section), Faculty of Dentistry, University of Manitoba, was a guest lecturer at the 50th anniversary of the founding of the Forsyth Dental Infirmary, Boston, December 4 - 5, 1964. Dr. Kleinberg spoke on *in vivo* investigations on dental plaque and new ultramicro analytical techniques.

Grasso Joins Dalhousie

Dean J. D. McLean has announced the appointment of J. E. Grasso to the Faculty of Dentistry, Dalhousie University, Halifax. A native of Massachusetts, Dr. Grasso graduated in dentistry from Dalhousie University last year. He is now attending the University of Alabama for postgraduate studies in removable partial prosthodontics and maxillofacial prosthodontics. Upon his return to Dalhousie University, Dr. Grasso will take up a full-time appointment.

Royal Canadian Dental Corps

R.C.D.C. World-Wide

At the close of the year 1964 R.C.D.C. officers and men were serving the armed forces in all parts of Canada; also the 4th Canadian Infantry Brigade Group, Germany; No. 1 Air Division R.C.A.F., Europe; United Nations Emergency Force, Middle East; and the Canadian contin-

gent, United Nations Forces, Cyprus. An R.C.D.C. officer and assistant also accompanied the recent McGill University-WHO-Medical Research Council of Canada expedition to Easter Island in the South Pacific.

Dental Officer Participates in Easter Island Expedition

On November 16, 1964, H.M.C.S. Cape Scott, a Navy repair ship, sailed from Halifax with a medical research team to Easter Island in the South Pacific. The expedition, led by S. C. Skoryna of McGill University, received financial assistance from several sources including the World Health Organization and the Medical Research Council of Canada. The purpose of the expedition is to assemble a biological portrait of an ancient and isolated people before effects and changes are caused by the influence of modern civilization.

Maj. A. G. Taylor of Halifax, accompanied the expedition. During a two-month stay on Easter Island, he gathered pertinent material such as study casts, skull radiographs, intra-oral radiographs, side view facial photographs and related information for later analysis by the team. The results of the analysis will be used to determine whether there is any correlation between DMF rate, diet, hereditary and environmental factors.

Posted:

In December 1964, **Maj. I. W. Susser** of Montreal, from No. 1 Wing, R.C.A.F. Station, Marville, France, to Calgary, Alberta.

Economics

Cross-Canada Development of Service Corporations

Latest reports show the status of dental service corporations in the provinces to be as follows:

Newfoundland: Very little interest. Newfoundland could only operate a dental service plan in co-operation with the other Atlantic Provinces.

Prince Edward Island: Action on a P.E.I. service corporation has been shelved in the hope that a dental service corporation for the Atlantic Provinces may eventually be formed.

Nova Scotia: During 1964, an act of the legislature was passed incorporating a provincial service corporation, but it is not in operation.

New Brunswick: The subject is being studied. A report will be made some time this year.

Quebec: Legislation has been passed, but the corporation is inactive. The province is watching developments in other provinces.

Ontario: No service corporation and little hope of getting one.

Manitoba: A corporation is still contemplated, but there is little possibility of action being taken in the immediate future.

Saskatchewan: The subject is being studied.

Alberta: A service corporation was incorporated under the Societies' Act in 1964. The corporation has had no success in finding a group interested in a dental care plan.

British Columbia: This province has made the most progress to date. The Dental Services Association of British Columbia has a full-time administrator and is working hard to interest a group in their plan.

B.C. Corporation Sets Table of Allowances

The Dental Services Association of British Columbia has established a table of allowances which will apply to all DSABC contracts. A release from the corporation notes:

"There may be circumstances where the allowance will be high for the service rendered, particularly where quadrant dentistry is involved, in which case the usual fee should prevail and the resulting saving shared with the patient. In other instances, where a procedure may be attended by varying degrees of com-

plexity or complication, it is impossible to establish a fixed allowance that will afford adequate compensation in all cases. For this reason, a number of procedures have the letters 'B/R' or an amount followed by 'or B/R' in the allowance column. 'B/R' means By Report.

"This facility has been incorporated into the Table of Allowances to permit a fluctuating allowance for procedures where complications may be involved or encountered which could vary the amount of the fee. In these instances, the dentist may charge his usual fee for the procedure and submit a brief report which will permit D.S.A. to pay the usual or customary fee which should be accorded to the service taking into consideration the complications involved.

"If a patient desires extra service or attention, the dentist may extra-bill above the allowances contained in the Table of Allowances."

Some examples of the allowances are: prophylaxis (for patients 15 years and over) \$8; silicate cement filling \$7; amalgam restorations in permanent teeth (one tooth surface) \$6, (two tooth surface molar) \$8, (three tooth surface molar) \$12; single uncomplicated extraction \$5, extraction of each additional tooth \$3; surgical removal of erupted teeth B/R; removal of impacted tooth (completely bony) \$40 or B/R.

Great West Life Advertises "Dentalcare" Plan

The Great West Life Assurance Company, Winnipeg, recently advertised a group insurance plan for employees and their families to cover "the crippling cost of unexpected dental expense." The plan "will provide one of the most frequently used and appreciated benefits in your firm's health insurance program."

In 7 by 10 inch advertisements in the Toronto daily newspapers, the company claimed that its "dentalcare plan avoids the high cost and rigid benefit structure of most package plans" by permitting "broad scope in the choice of benefits. This, matched with a variety of cost control elements, provides a dental insurance program which meets the needs of your

employees, yet still recognizes the limitations of your budget.”

Gross Income and Expenses of Dental Practice Revealed

Preliminary estimates of average gross income and expenses of Canadian dentists in private practice are now available from the Third Survey of Dental Practice in Canada. The following mean averages by item of expense and the percentage that each item is of gross income are subject to revision: gross income \$27,140—100 per cent; net income \$14,880—55 per cent; expenses \$12,260—45 per cent.

Expenses include: office rent \$1,410—5.0 per cent; utilities \$380—1.5 per cent; insurance \$180—0.5 per cent; laboratory charges \$2,740—10.0 per cent; dental supplies, drugs, \$2,060—7.5 per cent; salaries \$3,100—11.5 per cent; fringe benefits \$65—0.5 per cent; travel, dues, journals, licence fees \$380—1.5 per cent; depreciation \$700—2.5 per cent; other \$1,245—4.5 per cent.

A.D.A. Authorizes National Co-ordinating Agency for Service Corporations

Dental service corporations sponsored by state dental societies will be able to participate in nation-wide contracts through the creation of a national agency authorized by the American Dental Association at its 105th Annual Session in San Francisco last November.

The following functions are to be performed by the agency:

Lend assurance that the character of private dental practice will not be adversely affected in the development of prepayment plans at the national level;

Make technical assistance available to existing and developing dental service corporations;

Conduct research programs and provide a mechanism for the interchange of information in order to minimize the duplication of costly pilot programs;

Provide active liaison with other national agencies, such as the national agency of Blue Cross and Blue Shield; and

Act as a co-ordinating agency in de-

veloping acceptable methods for fostering multi-state prepaid dental programs.

In making the recommendations for the national co-ordinating agency, the A.D.A. Council on Dental Health noted that service corporations in several states have already been approached by major industries or unions on prepaid dental coverage for employees in more than one state. This multi-state coverage has not been legally possible for a service corporation in any one state.

The co-ordinating agency, generally referred to as the National Association of Dental Service Plans or NADSP, will be independent of the American Dental Association. NADSP by-laws will stipulate that a majority of its board of directors be composed of ethically and legally qualified dentists.

Dentists Seek Equality with Physicians in Health Insurance Contracts

At its annual meeting in San Francisco last November, the House of Delegates of the American Dental Association approved a resolution underlining the right of a dentist to be paid for oral procedures covered by health insurance contracts.

The resolution states “that the appropriate agencies of the American Dental Association be directed to accelerate their efforts to eradicate from health insurance and health service contracts restrictions which, directly or by administrative interpretation, permit the underwriters to determine their liability respecting covered services or procedures involving the oral cavity solely on the basis of the character of professional degree and licensure held by the provider of such services.”

A.D.A. Rejects ‘Individual Responsibility Plan;’ Cites Court Decision

A resolution calling for American Dental Association approval of the ‘Individual Responsibility Plan’ for dental health care prepayment was rejected by the A.D.A.’s House of Delegates at its annual session in San Francisco, last November. The reasons:

“IRP is not a prepayment plan, but a method by which a dentist bills an in-

insurance carrier on an IRP form which does not itemize fees for services provided

"The A.D.A.'s Council on Dental Health had observed that the IRP form had been reviewed and found to be unusable by the California Dental Service, the California Department of Social Welfare which administers the dental program for public assistance beneficiaries, and the Health Insurance Council which represents most of the major health insurance carriers.

"The IRP form recently was the loser in a court decision in California's Orange County."

In its comments on the IRP resolution, a committee of the A.D.A. Board of Trustees reported:

"On August 28, 1964, Judge Howard C. Cameron of the Superior Court of California ruled in a case in which a dentist used the IRP form for billing and refused to use the form prescribed by the Trust which was responsible for payment. The judge upheld the right of trustees of a benefit fund to require that its prescribed claim forms be filled out by both the beneficiary and his dentist as a prerequisite to the payment by the Fund for dental services performed. The Board does not believe that approval should be given to a plan which compels use of a form for billing that is not acceptable either to the carriers or the courts."

Michigan Service Corporation Institutes Appeals Procedure

The Michigan Dental Service Corporation has adopted an appeal procedure designed to provide the individual dentist with recourse in the event he believes himself to be unfairly or improperly treated. Any participating dentist may appeal any decision of the service corporation except those decisions which affect all dentists uniformly. The appeal must be made in writing, setting forth all facts of the case, including the decision made and the dentist's reason for disputing the decision. The initial appeal by the dentist is directed to the dental advisory committee of the Michigan Dental Service Corporation. This committee is composed of five members, all of whom are dentists

and members of the board of the Michigan Dental Service Corporation. If an ethical question is involved, the matter is referred to the Michigan State Dental Association. If the appealing dentist is not satisfied with the decision he may appeal further to the board of directors of the service corporation.

Hygienists' Duties Workshop Topic

Responsibilities and functions of dental hygienists was the subject of a special workshop on dental hygiene education and licensure held last October in Chicago. The workshop was sponsored by the American Dental Association's Council on Dental Education, the American Association of Dental Schools and the American Dental Hygienists Association. Secretary W. G. McIntosh represented the Canadian Dental Association.

Special emphasis was given to the education of the dental hygienist and experimentation in the expansion of the hygienist's duties. Specific objectives of the workshop were three: to re-examine the present and potential duties and responsibilities of the hygienist; to evaluate the adequacy of present requirements for education of the hygienist and, if indicated, to propose revisions in these requirements for consideration by the A.D.A. Council on Dental Education, and to propose revisions which may be indicated in the licensure regulations for dental hygienists.

Fluoridation

Natural and Mechanical Fluoridation Equally Beneficial

There is essentially no difference in caries reducing effect between a mechanically fluoridated water supply and a naturally fluoridated water supply. This conclusion emerges from the final (1963 survey) report of the Brantford Fluoridation Study. The report was released last month by the Department of National Health and Welfare. Results of this survey show a

beneficial and continuing reduction in caries experience in 16 and 17 year old children 17½ years after the introduction of water fluoridation in Brantford, Ontario.

The report also notes that the beneficial effect of water fluoridation extends at least until the eighteenth year of life.

Tooth decay experience of native continuously resident children of Brantford was compared with Stratford, Ontario, which has naturally fluoridated water, and Sarnia, Ontario, where there is no fluoride in the water. No ill effects attributable to the presence of fluoride in the water supply were observed in Brantford or Stratford.

Picton, Ont., Water Now Fluoridated

Picton, Ontario, commenced fluoridation of its water supply last October, according to advice received by the Health League of Canada. The Picton Utilities Commission supplies water to 6,318 in the town and in the suburb of Picton Heights.

41 Countries Have Fluoridation

According to the Health League of Canada, fluoridation plants are now in operation or will start functioning in the near future in 41 countries. In terms of total population served by fluoridated water supplies, the United States leads with 46,678,380 people served, followed by Canada with 3,851,000 being served.

Latin America Doubles Fluoridation

According to the Pan American Health Organization, the number of communities in Latin America with fluoridation has almost doubled since 1961. At that time, 60 cities were fluoridating; at the end of 1963, 114 cities had instituted the measure. Panama has 79.1 per cent of its urban water supplies fluoridated; Guatemala, 61.1; Chile, 60.3; Paraguay, 54.1; Colombia, 46.1; El Salvador, 13.6; Mexico, 3.2; and Peru, 0.8 per cent. Brazil has 69 urban centres providing fluoridation. Argentina, Bolivia, Costa Rica, Cuba, the

Dominican Republic, Ecuador, Haiti, Honduras, Nicaragua, Uruguay and Venezuela do not yet have community fluoridation programs.

Prenatal Fluorides Termed Beneficial

J. R. Blayney and I. N. Hill of Evanston and Chicago have reported that ingestion of fluoridated water during pregnancy gives children additional dental caries protection and higher fluoride concentration in teeth and bones.

Their report in the October 1964 *Journal of the American Dental Association* shows caries prevalence to be lower in the deciduous teeth of children whose mothers drank fluoridated water during pregnancy than in children whose mothers did not drink fluoridated water. Both groups of children shared the same Evanston water postnatally. Evanston was one of the first communities to fluoridate its water supplies in 1947.

The two investigators reported that the fluoride ion passes the human placental barrier as indicated by an analysis of fluorine content of foetal bones and teeth in four foetuses from the Evanston community, compared with nine stillborn foetuses in fluoride-free areas of Chicago.

Research

Topical Fluoride Research at Forsyth

Luther Terry, surgeon general of the U. S. Public Health Service, has announced support for a co-ordinated program of clinical and chemical research on the effects of topical fluoride treatments on Massachusetts school children. Finn Brudevold, chief of preventive dentistry at Forsyth Dental Center, Boston, and professor of dentistry, Harvard School of Dental Medicine, will direct the program.

Laboratory findings on various concentrations of fluoride and methods of application of various test solutions for reduction of dental caries will be tested in clinical projects. W. D. Wellock, dental director, Massachusetts Department of Public Health, will co-operate in the com-



Recent recipients of honorary memberships in the Montreal Dental Club are (l. to r.) Montrealers S. A. Robinson, Ernest Charron and H. L. Greaves.

bined laboratory-clinical effort. Earlier, Dr. Brudevold and Dr. Wellock developed and tested a phosphate-fluoride topical application with good caries-reducing results.

Preliminary tests have shown that fluoride in a special organic solvent, rather than in aqueous solutions, is taken up rapidly by tooth mineral. Dr. Brudevold plans to continue testing fluoride-organic solutions as well as aqueous solutions.

Anticariogenic Mouth Protector with Fluoride Gel

A small plastic mouth protector no bigger than a thumbnail can be used with a fluoride gel to stop tooth decay in the hamster, an animal which ordinarily develops tooth decay like humans. This was announced by P. H. Keyes of the National Institute of Dental Research, Bethesda, Maryland, at the joint meeting of the American Dental Association and the Fédération Internationale in San Francisco, last November.

As a consequence, NIDR has begun a clinical study in the Buffalo, New York area in collaboration with the State University of New York to evaluate the new method of reducing tooth decay by applying fluoride to the teeth and gums. Eight hundred children, aged 11 - 14 years, are wearing custom-fitted, flexible mouth protectors for approximately six minutes each school day. One group uses a fluoride-phosphate gel, while the second

group uses a gel containing fluoride only. A third group of children, acting as controls, gets no fluoride or mouth protectors.

Public Health

P. H. Dentists to Meet in Edmonton

Public health dentists from across the nation will meet in Edmonton when the Canadian Public Health Association holds its annual convention there, May 31 to June 3. World-wide and public health advancements in dental health are the topics selected for meetings of the CPHA dental section. Further information may be obtained from A. T. Salter, dental section program chairman, Government of the Province of Alberta, 303 Administration Building, 109 and 98 Avenue, Edmonton, Alberta.

Awards and Honours

Elected to honorary membership in the Montreal Dental Club on December 14, 1964, were Montreal dentists **H. L. Greaves** and **S. A. Robinson**.

A special honorary membership was also conferred on **Ernest Charron**, former dean of dentistry at the Université de Montréal.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

December Journal

To the Editor:

I received my copy of the December Journal and hasten to send you this note to express my admiration.

In all of my contact with the profession throughout the world, never have I seen a finer tribute paid to one of the most deserving of our ranks. If not a single word of editorial matter had been published, the cover itself would adequately have conveyed the story of dentistry in Canada and the distinguished gentleman who has served it so ably and so loyally.

This edition is, indeed, the very expression of dentistry's gratitude to Dr. Don Gullett, a man who has dedicated his entire professional life to the service of mankind. The manner in which you have elected to convey this message is most fitting and commendable.

On behalf of Alpha Omega in Canada and the United States, permit me to extend to you and the members of your editorial staff our great admiration for this noble gesture.

Herbert Caplan, D.D.S.,
National Treasurer, Alpha Omega Fraternity,
1538 Sherbrooke St. W., Montreal 25, P. Que.

En faveur de l'intégration du Journal

M. le rédacteur:

Dans la livraison d'octobre 1964 du *Journal de l'Association dentaire canadienne*, un confrère éminent de la province d'Alberta signifiait son opposition à l'intégration des articles écrits en français et de deux écrits en anglais qui sont publiés dans le Journal.

Les raisons qu'il invoque pour s'opposer à cette mesure qui a été ratifiée par le Conseil des Gouverneurs de l'Association dentaire canadienne, à son assemblée de juin dernier tenue à Edmonton, montrent que ce distingué confrère ne réalise pas la gravité du problème qui existe actuellement au Canada au sujet de la province de Québec et qu'il ignore les prémices de ce problème.

J'espère que cette expression d'opinion n'est pas celle des dentistes de langue anglaise de notre pays, car, si tel était le cas, je me demanderais ce que fait la province de Québec au sein de l'Association dentaire canadienne, cette province qui compte une proportion de 80 pour cent de dentistes de langue française, sans mentionner les autres de même langue qui exercent de l'Atlantique au Pacifique.

Quand des citoyens de langue anglaise affichent une telle ignorance des faits et des principes d'humanité, on est porté, nous Canadiens de langue française, qui voulons un Canada uni, à devenir séparatistes et de dire: "Nous ne sommes pas chez nous au Canada donc retirons-nous dans la province de Québec."

Gérard de Montigny, D.D.S.,
Faculté de chirurgie dentaire,
Université de Montréal.

in memoriam

HAROLD ADAMS — Dr. H. Adams of Grimsby, Ontario, died on November 15, 1964. He was 68. Dr. Adams graduated from the Royal College of Dental Surgeons of Ontario in 1921 and practised in Tisdale, Saskatchewan, until 1948. Surviving Dr. Adams are his wife, Lilian; a son, D. F. P. Adams of Vancouver; a daughter, Mrs. W. J. Mollard of Toronto; a brother, Wilfred of Aurora, Ontario; three sisters, Mrs. L. E. Mylks of Kingston, Ontario, Misses Ada and Florence Adams of Peterborough, Ontario; and three grandchildren.

PAUL ARTHUR COTE — Dr. P. A. Cote of Ottawa died on October 29, 1964. He was 57. Dr. Cote was born in Ottawa in 1907. He earned a bachelor of arts degree at LaSalle Academy, University of Ottawa, and graduated in dentistry from the University of Toronto in 1939. Dr. Cote practised in Ottawa and had served as president of the Eastern Ontario Dental Association and the Ottawa Dental Association. Surviving are his wife, Bella; a daughter, Lyse, and two brothers.

PERCY ELGIN CRYSLER — Dr. P. E. Cryslar of Simcoe, Ontario, died on November 4, 1964, at the age of 79. He was born in Woodhouse, Ontario, in 1885. Dr. Cryslar was educated in Woodhouse, Port Dover and Simcoe and graduated from the Royal College of Dental Surgeons of Ontario in 1913. He practised in Simcoe from the time of graduation until his death. Besides his wife, Bertha Maud, Dr. Cryslar is survived by a son, Dr. W. E. Cryslar of Brantford, Ontario; a brother, Lloyd of Woodhouse; and four grandsons.

BERNARD PHILLIP MASS — Dr. B. P. Mass of Edmonton, Alberta, died on November 5, 1964, at the age of 44. He was born in Winnipeg, Manitoba, in 1920. Following graduation from the University of Toronto in 1950, Dr. Mass practised in Edmonton. He served for four years with the Royal Canadian Dental Corps. Besides his wife, Florence, Dr. Mass is survived by a son, Philip; a daughter, Sherrill; his

mother, Mrs. R. Mass; two brothers, Jack and Harry; and a sister, Charlotte.

SILVANUS PROPHET McPHEE — Dr. S. P. McPhee of Orillia, Ontario, died on November 17, 1964. He graduated from the Royal College of Dental Surgeons of Ontario in 1915 and was a life member of the college. Dr. McPhee is survived by his wife, Lucille; two daughters, Mrs. A. H. McNabb and Mrs. R. A. Dilworth; a sister, Miss B. McPhee; and three grandchildren.

JULES NADEAU — Le Dr Jules Nadeau de Montréal, âgé de 63 ans, est décédé le 13 novembre 1964. Il naquit à Montréal en 1901. Le Dr Nadeau obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1926.

HENRY MASATARA NOMURA — Dr. H. M. Nomura of Vancouver, British Columbia, died on November 8, 1964. He was 84. Dr. Nomura was born in Tokyo, Japan, in 1880. Following graduation from Washington University, St. Louis, Missouri, in 1914, he practised in Vancouver, retiring in 1958. Dr. Nomura is survived by his wife, Lovenda of Vancouver, and three sisters in Japan.

ROY LESLIE STEPHENSON — Dr. R. L. Stephenson of St. Catharines, Ontario, died on October 29, 1964. He was 70. Dr. Stephenson was born in Toronto in 1893. Following graduation from the Royal College of Dental Surgeons of Ontario in 1923, he practised in Toronto for a year before going to Niagara-on-the-Lake in 1924. In 1928 he moved to St. Catharines where he practised until the time of his death. During World War I he served overseas. Besides his wife, Mertie, Dr. Stephenson is survived by two sisters, Mrs. R. Keep of London, Ontario, and Mrs. C. Polkinghorne of Barrie, Ontario, and one brother, R. J. Stephenson of Toronto.

Craniofacial morphology in six pairs of monozygotic twins discordant for cleft lip and palate

R. B. Ross,* D.D.S., Dip. Orth., M.Sc. (Dent), Toronto, Ontario, and
T. B. Coupe, D.D.S., R.C.S. (Eng.), M.Sc. (Toronto), London, Eng-
land

Analysis of morphological characteristics of six pairs of monozygotic twins, discordant for cleft lip and/or cleft palate revealed that: in unilateral cleft lip and palate there is alteration in the relationship of the facial skeleton to the cranial base, rather than an intrinsic defect of the facial components; isolated cleft palate is characterized by underdevelopment of the lower face and altered relationship of the face to the cranial base; isolated cleft lip is accompanied by minimal alteration in morphology except in the anterior maxillary regions; mandibular width is increased in both cleft palate and cleft lip and palate; surgical correction of the palate does not affect maxillary growth in length, but may be partly responsible for the altered position of the maxilla; cephalometric 'norms' do not apply to treatment planning for children with clefts of the lip and palate; and vertical development may be a minor problem in children with clefts that may involve the mandibular as well as the maxillary arch.

Une analyse des caractéristiques morphologiques chez six paires de jumeaux monozygotiques dissemblables pour des fissures de la lèvre et de la voute palatine a révélé les faits suivants: dans une fissure unilatérale de la lèvre et de la voute palatine, il y a une anomalie dans les rapports du squelette facial avec la base du crâne, plutôt qu'une malformation intrinsèque des os propres de la face; une fissure palatine sans bec-de-lièvre se caractérise par un sous-développement de la partie inférieure de la face et par des anomalies entre les rapports de la face avec la base du crâne; un bec-de-lièvre sans fissure palatine est accompagné par une petite anomalie dans la morphologie, excepté dans la région antérieure du maxillaire; la mandibule prend des proportions plus considérables dans les cas de fissure palatine et dans les cas de fissure palatine accompagnée de bec-de-lièvre; une intervention chirurgicale au palais n'a aucun effet sur la croissance du maxillaire en longueur, mais elle peut créer un changement de position; des données céphalométriques ne peuvent pas servir au plan de traitement des enfants souffrant de fissure de la lèvre et du palais; le développement vertical ne constitue qu'un problème de moindre importance chez les

*Director of orthodontics, Maxillofacial Clinic, The Hospital for Sick Children, Toronto.

Presented at the American Cleft Palate Association Convention in Montreal, May 5, 1961.

s souffrant de fissures qui comprennent l'arc mandibulaire aussi bien que celui du maxillaire.

In recent years the facial characteristics of the child with a cleft lip or cleft palate have become more clearly defined. This is partly due to improvement in surgical care and techniques, so that gross mid-facial deformities, formerly considered typical, are now rarely encountered. Application of cephalometric radiography to the study of these children also permits a more objective evaluation of craniofacial morphology. There is increased awareness of the necessity for separating individuals according to cleft type and degree of involvement. A review of the literature on this topic has been published by Subtelny.¹

Observations on twins have at times provided valuable information about the control of facial growth and development. Dahlberg,² in a study on normal twin pairs, comments on the importance of environment, inheritance, and the random variations to be expected in twins. Lundstrom,³ in a study of angular relations within the facial skeleton in twins, also notes that "genetic factors have between once or twice the significance of non-genetic factors in respect to variability in the characteristics investigated." Kraus et al⁴ used cephalometric radiography to compare craniofacial structures of five sets of triplets and similarly found that morphological differences between monozygotic individuals were slight. They also conclude that the morphology of individual bones in the craniofacial complex is determined largely by heredity, whereas environment is more likely to modify the relationship of the bones to each other.

The separation of genetic and environmental factors in the facial development of the child afflicted with a cleft is most difficult. But monozygotic twins, though possessing identical genetic constitutions, are sometimes discordant for cleft lip or cleft palate; the development of the primary or secondary palate or both can be normal in one and abnormal in the other. There probably exists a genetic predisposition to clefting in both, but the ap-

pearance of the anomaly in one suggests an environmental teratogenic agent. Secondary environmental influences further affect facial growth and development.

This study is based on the assumption that in discordant monozygotic twins, craniofacial structures which are not related to or affected by the cleft anomaly would be very similar, while structures which are related to or affected by the cleft would be dissimilar. The number of twin pairs is limited in this particular study. Nevertheless, the nature of the material is such that conclusions can be favourably compared with those from studies using a considerably larger sample of unrelated individuals.

This study is not intended to be definitive. Its purpose is to establish broad concepts of craniofacial morphology for children with clefts, and to provide a guide for more comprehensive studies in the future.

SAMPLE

Six pairs of monozygotic twins discordant for cleft lip and/or cleft palate were obtained from the Maxillofacial Clinic at The Hospital for Sick Children, Toronto. The zygosity of each pair of twins was previously established by a geneticist through blood grouping, dermatoglyphics, placental membrane, taste tests and other standard tests.

Of the six twins with clefts, three (Figures 1-3) had clefts of the soft and hard palates (all females), two (Figures 4, 5) had complete unilateral clefts of the lip and palate (one male, one female) and one (Figure 6) had a cleft of the lip and anterior maxilla only (a male). In each case primary surgical repair had been performed, but no revisionary surgical procedures or orthodontic treatment had been attempted. The subjects' ages ranged from five years and four months to 17 years and three months.

The photographs (Figures 1-6) illustrate that the twins with clefts do not exhibit the severe deformities usually considered characteristics of the cleft anomaly. The original defects were moderate, and surgical treatment gave excellent results.

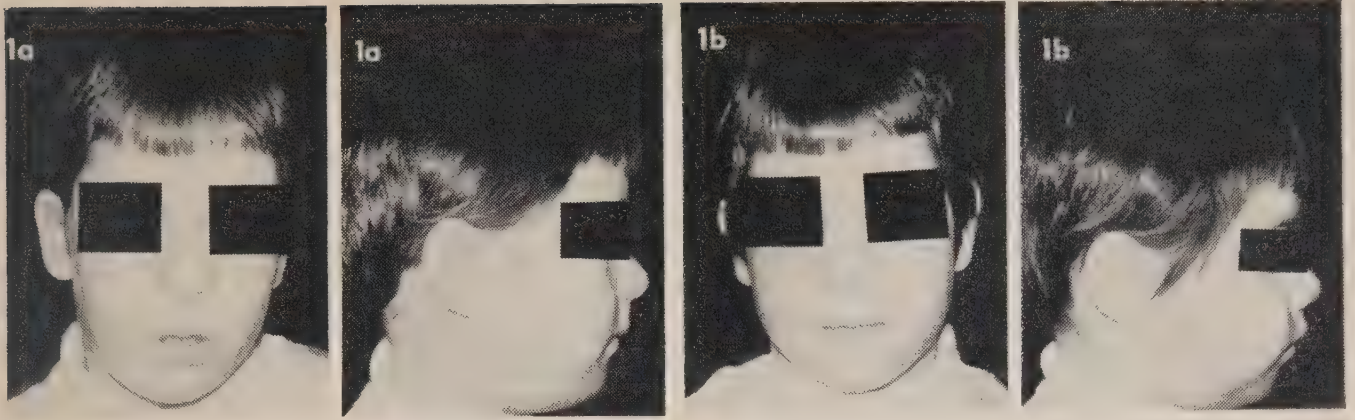


FIGURE 1 Twin set No. 1. (a) Twin with cleft palate; (b) normal twin; (c) facial diagrams superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft.

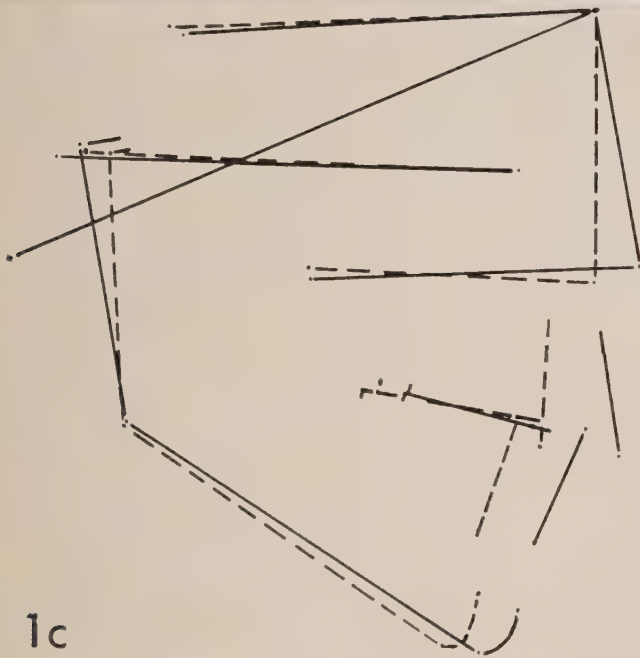


FIGURE 2 Twin set No. 2. (a) Twin with cleft palate; (b) normal twin; (c) facial diagrams superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft.



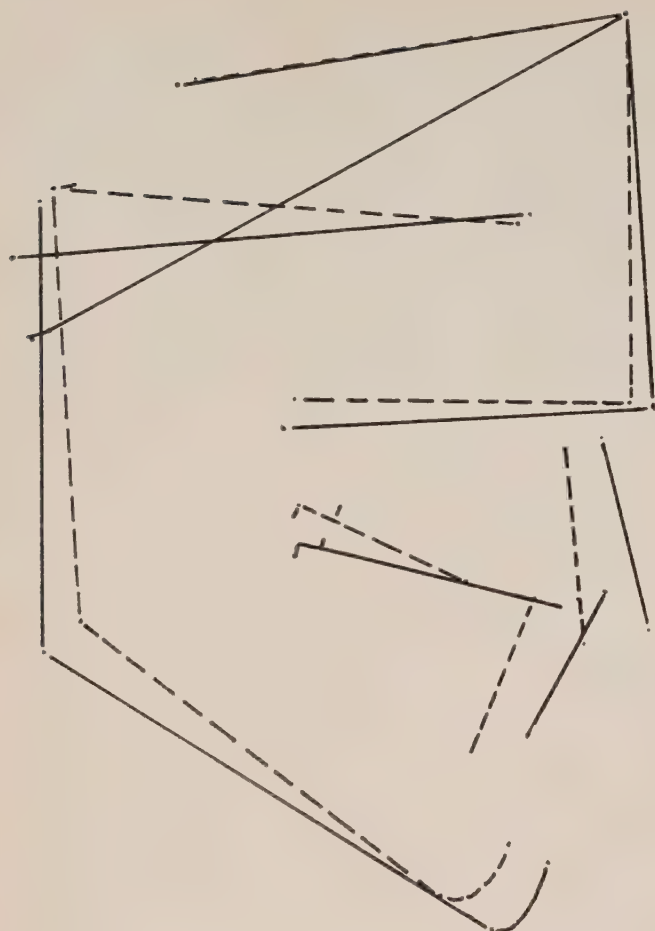


FIGURE 3 Twin set No. 3. Facial diagrams superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft. Photographs not available.

To substantiate previous work on the variation occurring in concordant monozygotic twins, four pairs of normal twins of proven zygosity were selected from the Burlington (Ontario) Orthodontic Research Study. These twins had not received orthodontic treatment. They ranged in age from eight years to 12 years.

METHOD

Standardized cephalometric radiographs in the lateral and frontal views were used. In the lateral view the teeth were in occlusal contact. Tracings were made independently by each investigator, and where differences occurred they were studied. Only when complete agreement

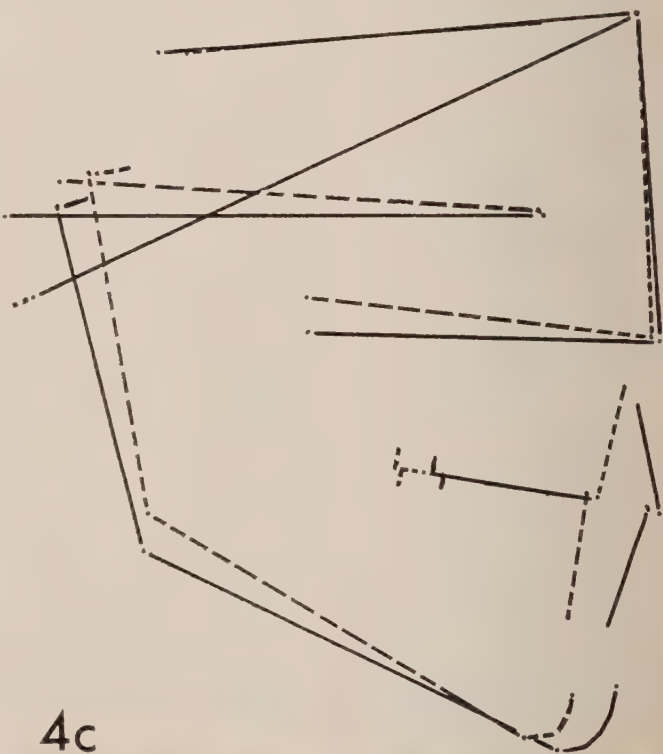


FIGURE 4 Twin set No. 4. (a) Twin with unilateral cleft lip and palate; (b) normal twin; (c) facial diagram superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft.

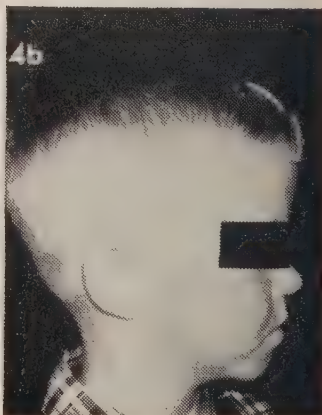
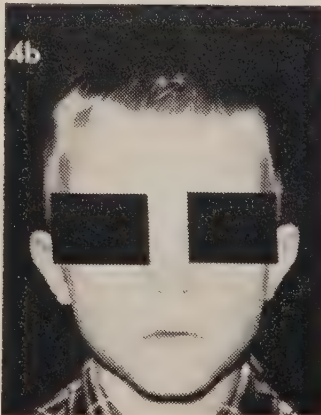
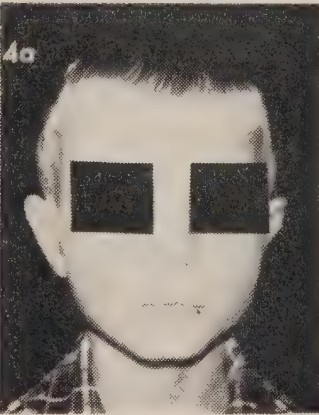




FIGURE 5 Twin set No. 5. (a) Twin with unilateral cleft lip and palate; (b) normal twin; (c) facial diagrams superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft.

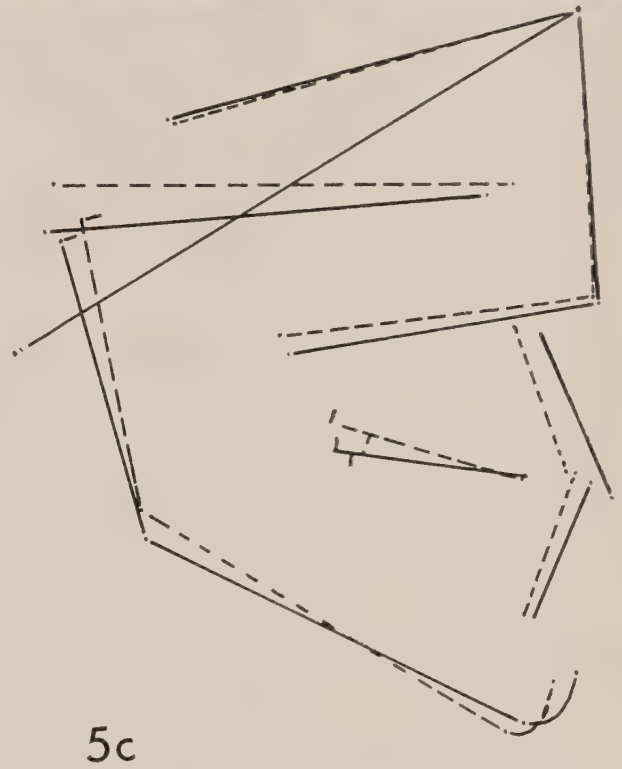
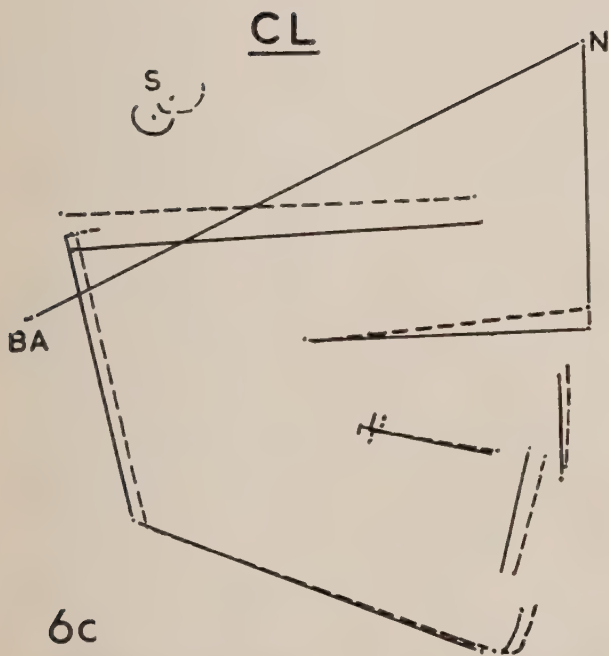


FIGURE 6 Twin set No. 6. (a) Twin with unilateral cleft lip only; (b) normal twin; (c) facial diagrams superimposed on the cranial base plane at nasion. The solid line represents the normal twin; the interrupted line the twin with a cleft.



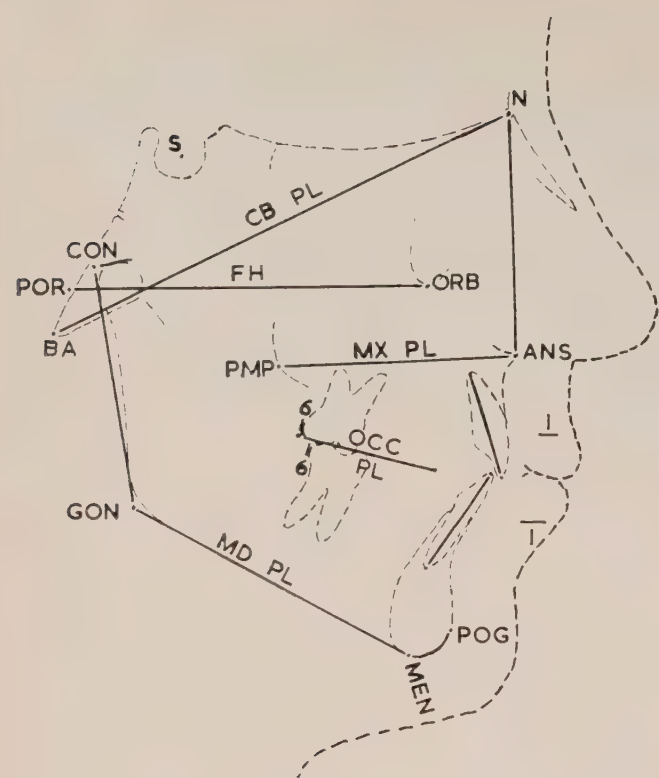


FIGURE 7 Tracing of lateral cephalometric radiograph (interrupted lines), with the facial diagram used in this study shown in heavy solid lines. Landmarks are N, nasion; ANS, anterior nasal spine; Pog, pogonion; Men, menton; Gon, gonion; Con, condyle; S, sella turcica; Ba, basion; Orb, orbitale; Por, porion. Planes are CB plane, cranial base plane; F.H., Frankfort horizontal plane; Mx Pl, maxillary plane; OCC, occlusal plane; MdPl, mandibular plane.

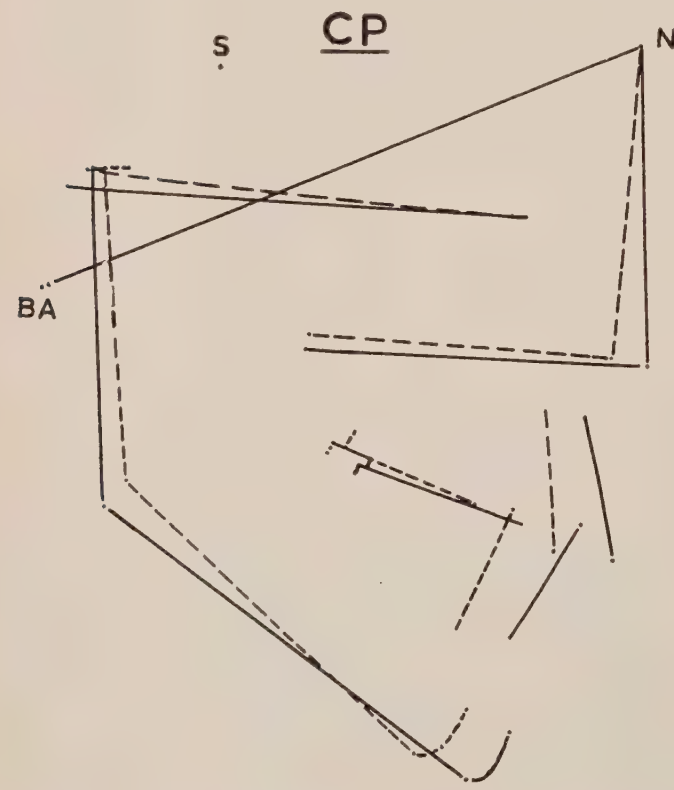


FIGURE 8 Composite facial diagrams superimposed on the cranial base plane at nasion. The interrupted line represents the three individuals with cleft palate (Figures 1, 2, 3); the solid line represents their normal twins.

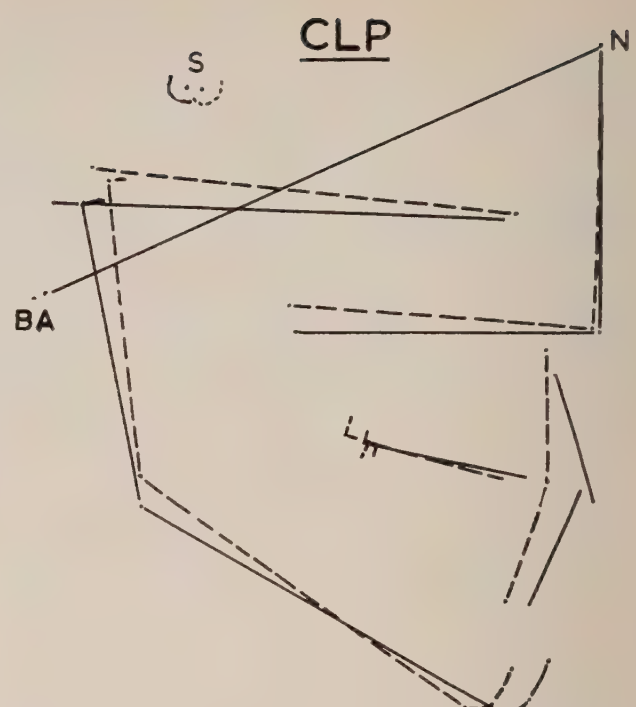


FIGURE 9 Composite facial diagrams superimposed on the cranial base plane at nasion. The interrupted line represents the two individuals with cleft lip and palate (Figures 4, 5); the solid line represents their normal twins.

was reached were the tracings used for analysis.

Figure 7 shows the landmarks located on the lateral film. The only points requiring explanation are:

PMP: This is the most inferior, posterior point of the body of the maxilla. The preferred point for representing the posterior part of the maxilla is the posterior nasal spine. However, in children with cleft palate the spine does not exist in many cases and is almost impossible to locate in others. PMP was considered a valid substitute.

OCC PL: The occlusal plane was determined by the buccal teeth, up to and including the cuspids.

From the individual tracings (Figures 1c, 2c, 3c) composite tracings were constructed of the three individuals with cleft palates. Comparable tracings were obtained from their twins. The two composite diagrams thus obtained were then superimposed (Figure 8). This procedure was repeated for the two individuals with cleft lip and palate and their twins (Figures 4c, 5c), and these composite diagrams were also superimposed (Figure 9). Many individual linear and angular measure-

ments were taken to verify the accuracy of the diagrams and to assess the consistency of the findings in each twin set. The advantage of using facial diagrams is the ease with which they may be superimposed in various ways. Thus relationships, that would otherwise require the interpretation of a vast number of linear and angular measurements, can be easily determined.

In addition, the lateral limits of the following structures were identified on the postero-anterior cephalogram: the cranium, the zygomatico-frontal suture, the head of the condyle and the gonial area. Craniofacial width in each of the four areas was measured.

FINDINGS

Measurements in millimetres and degrees are not reported; this is in order to emphasize that our study is a survey of morphological characteristics of children with clefts. The differences are marked enough (cf. tracings, Figures 1-6,8,9) to be significant, but mean values of these few cases could be inaccurate.

Figure 10 demonstrates the similarities in facial structure of ordinary monozygotic twins. Such conformity supports the premise upon which this study is based: that gross differences in the facial skeleton of discordant monozygotic twins are due to the clefting and not to a normal variation.

We observed that every twin having the cleft was smaller in both height and weight than his sibling. This difference is reflected in all of the linear measurements to some extent. Cranial base differences between normal twins and twins with clefts, however, are minor (Figure 11), and agree with previously reported findings.⁵

The configuration of the facial profile and the horizontal planes (maxillary, mandibular, occlusal: Figures 8, 9) indicates that the entire facial skeleton of the child with a cleft palate or cleft lip and palate is not only retruded, but is rotated, relative to the cranial base, about a fulcrum in the region of the nasion. This is not the case in the isolated cleft lip, however (Figure 6).

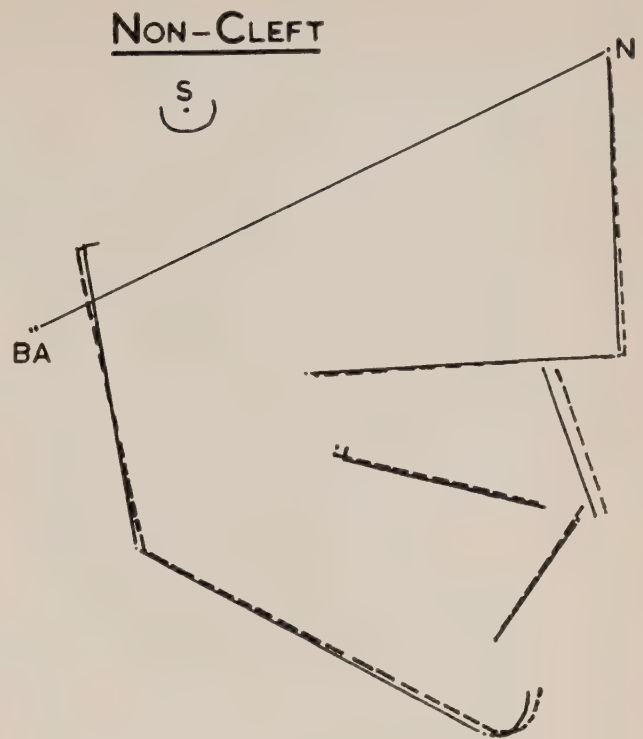
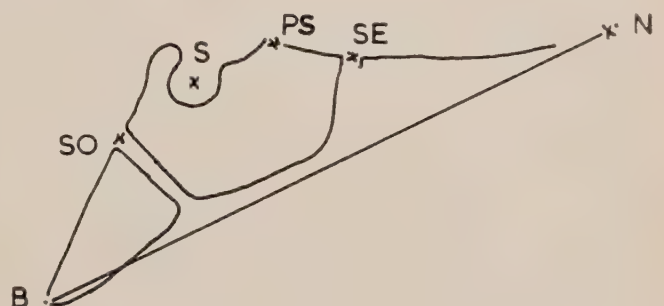


FIGURE 10 Facial diagrams of four sets of normal monozygotic twins illustrating the great similarity in facial structure. The solid line represents a composite of the more retrusive members of each pair, the interrupted line a composite of more protrusive members of each pair.

The generalized facial rotation is important for two reasons. First, a slightly different concept of the relations within the face must be adopted. It is incorrect to apply many of the cephalometric standards derived from normal children to individuals with clefts. It would be more useful to relate maxilla to mandible directly, than to depend on such measurements as SNA and SNB. A second implication of the overall facial retrusion is

FIGURE 11 Composite diagram of the cranial base comparing the six twins with clefts (X) with the six twins without clefts. • B, basion; SO, spheno-occipital synchondrosis; S, sella turcica; SE, spheno-ethmoidal synchondrosis; N, nasion; PS, planum sphenoidale.



that the mandible is also involved in the cleft anomaly, either primarily or because superimposed environmental factors have altered its position.

Two different mechanisms account for mandibular changes. In the cleft lip and palate twins (Figures 4c, 5c) mandibular length is not appreciably altered and chin retrusion is a result of mandibular rotation. In the cleft palate twins (Figures 1c, 2c, 3c) the overall size of the mandible is smaller, thus accounting for most of the chin retrusion. Rotation is also present.

In the children with palate involvement, four of the five cleft twins show decreased posterior facial height (the gonial area is more superior in the twins with clefts). The palatal operation in these children involved fracture of the hamulus and freeing of the tissue in this area. Growth of the internal pterygoid muscle could have been inhibited either by injuring the muscle itself or by involving the sheath in scar tissue. Shortening of this muscle probably results in decrease in the bony mass of the gonial area. We also note that the mandibular condyle is located anteriorly and superiorly in three of the twins with cleft (Figures 3-5). It is less likely, but still quite possible, that growth of the external pterygoid muscle could also have been inhibited. If so, the condyle would be gradually displaced anteriorly and superiorly. These are only theories, of course, and no claim is made for their validity.

It is interesting that maxillary and mandibular lengths are essentially normal in cleft lip and palate, yet both are decreased in cleft palate alone. If these observations apply to clefts in general, then there is apparently no appreciable deficiency in maxillary or mandibular growth *per se* in cleft lip and palate, whereas the marked maxillary and mandibular deficiency in cases of cleft palate alone suggests an inherent developmental fault. Thus surgical treatment of the palate, as performed in these children, cannot be implicated as an inhibiting influence on maxillary growth. The posterior positioning of the maxilla and the lingual inclination of the incisors may, however, be related to surgical 'binding' of the palatal and pharyngeal scar tissues.

Wieslander⁶ has shown that intermittent restraint on the maxilla over a relatively short period of time in the mixed dentition causes posterior positioning and rotation of the maxilla. Continuous restraint of the lip and surgical treatment of the palate from early infancy would probably have an even more marked effect on maxillary position.

The relations of primary concern to the orthodontist are those between 'basal' mandible and maxilla and the dento-alveolar superstructures. Mandibular and maxillary rotation and retrusion produced acceptable antero-posterior basal relations in the six individuals with clefts involved in this study. This is not always the case in children with clefts. But this study and general clinical experience suggest that malocclusion in patients that have had excellent surgical repair is often confined to the dento-alveolar structures.

Both maxillary and mandibular incisors are lingually inclined in the cleft lip and palate twins and the cleft palate twins. Except for the mandibular incisors of the cleft palate twins, the position of the apices of these teeth is normal. This is probably related to the combination of a slightly tighter upper lip and the inhibiting effect of the palatal scar tissue. Periodontal fibres from the teeth are present in the fibrous scar tissue of the palate. Orthodontic correction of the axial inclinations of the incisors, achieved by advancing the crowns, often creates serious retention problems since the maxillary incisors remain subjected to adverse forces. This is another reason for disregarding 'norms' established for normal children.

We found that dental arch length is usually decreased in the maxilla. Arch length in the mandible is decreased in cleft lip and palate patients and is even more markedly decreased in cleft palate patients. This confirms the clinical observation that cleft palate patients often require extractions in the mandibular arch, whereas cleft lip and palate patients require extractions less frequently. Missing teeth, a common finding in patients with clefts, are thus less of a problem than would be expected, since tooth crowding is often present.

One of the most serious problems in orthodontic treatment of unilateral cleft lip and palate is the difficulty in maintaining incisor overbite. The twins illustrated the lack of eruption of these teeth (Figures 8, 9).

Most of the foregoing discussion is concerned with cleft palate and unilateral cleft lip and palate. The twin that has the cleft lip only (Figure 6) is much less affected, the only marked difference being the position of anterior nasal spine. The characteristic nasal septum configuration and angulation of the border of the alveolar process frequently observed in these patients suggest the possibility of an upward rotation of the premaxilla toward the cleft.

There has been a tendency to attribute excess freeway space in children with clefts to the failure of the maxillary teeth to attain their proper vertical development. This study indicates that lack of vertical development is a minor problem in deciduous and mixed dentition cases, and that such vertical development problems as are present may be related to the mandibular as well as the maxillary dentition. Tongue position is probably the determining factor in the deficiency of vertical development, and determines the extent to which each arch is affected.

The findings with regard to facial widths are surprising. Every twin with a cleft palate or cleft lip and palate has increased bicondylar and bigonial widths despite decreased cranial and orbital widths commensurate with decreased overall body size.

Subtelny⁷ notes that the width of the pharynx is increased in infants with unoperated clefts. He speculates that this is due to lateral pull of the pterygoid muscles on the pterygoid plates prior to complete unification with the body of the sphenoid bone. We now suggest, from the findings in this study, that the widening tendency is more extensive. This may be because the action of the tongue forces the entire region to expand, or because continuity of the pharyngeal ring of musculature is essential to normal pharyngeal width. When this continuity is lost, as in patients with clefts, normal growth forces may result in altered relationships.

SUMMARY

The morphological characteristics of six pairs of monozygotic twins, discordant for cleft lip and/or cleft palate are analyzed. Cranial, facial and dental structures are described. The gross differences noted are presumed to be related to the presence of a cleft in one member of each pair of twins. The principal findings are:

Unilateral cleft lip and palate is characterized by an alteration in the relationship of the facial skeleton to the cranial base, rather than by any intrinsic defect of the facial components (other than the cleft itself);

Isolated cleft palate is characterized by an underdevelopment of the entire lower face, plus an altered relationship of the face to the cranial base;

Isolated cleft lip is accompanied by very little alteration in morphology except in the anterior maxillary region;

Mandibular width is increased in both cleft palate and cleft lip and palate;

Surgical correction of the palate does not affect maxillary growth in length, but may be partly responsible for the altered position of the maxilla;

It is not advisable to apply cephalometric 'norms' when planning treatment for children with clefts of the lip and palate;

Vertical development may be a minor problem in children with clefts, and may involve the mandibular as well as the maxillary arch.

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Panoramic radiography in dentistry

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Panoramic radiography is useful in studying growth and development, resorption and eruption patterns, the temporomandibular joint, the sinuses and mastoid regions, mandibular morphology and fractures, and various pathological conditions such as neoplasms, cysts, supernumerary teeth, ankylosis, and abnormal eruption. Panoramic radiography is also applicable to serial extraction and progress reports during this therapy. Two machines are available for panoramic radiography. The S. S. White Panorex produces good pictures of the buccal segments and maxillary anterior teeth. The mandibular incisors are less accurately reproduced, though diagnostically acceptable. The film must be spliced in the centre. The Siemens Orthopantomograph provides a continuous image on a single film. Patient positioning factors are more critical, however, and significant information may be lost due to change of the machine's rotational axis. Advantages of panoramic radiography are the significant amount of diagnostic information obtained, short exposure time, relatively low amount of radiation, and optimum patient comfort. Disadvantages are the high initial cost of the equipment, greater space requirements, and the residual need for occasional confirmatory intra-oral dental radiographs.

La radiographie panoramique sert à examiner la croissance et le développement, les phénomènes de résorption et d'éruption, l'articulation temporo-mandibulaire, les sinus et les régions de l'apophyse mastoïde, la conformation de la mandibule, les fractures des maxillaires, les ankyloses et les éruptions anormales. La radiographie panoramique s'utilise aussi dans les extractions en série et pour suivre l'évolution de cette façon de faire. Deux appareils servent à la radiographie panoramique. Le S.S. White Panorex donne de bonnes images des segments buccaux et des dents antérieures du maxillaire. Les incisives inférieures apparaissent moins clairement, quoiqu'elles soient suffisamment visibles pour un diagnostic. Le film doit être coupé au centre. L'Orthopantomographe de Siemens donne une image complète sur un seul film. Il exige cependant au patient de prendre une position difficile; de plus, des détails peuvent se perdre à cause de changements susceptibles de se produire dans l'axe de rotation de l'appareil. L'avantage de l'appareil panoramique réside dans l'abondance des renseignements qu'il fournit, le temps d'exposition aux rayons qu'il diminue, la quantité moindre de radiation qu'il requiert et le confort qu'il assure au patient. Ses inconvénients consistent dans son coût élevé, l'espace qu'il exige et l'obligation qu'il impose de s'en rapporter parfois à des radiographies intra-orales.

George Wellington Grieve Memorial Lecture delivered at the Annual Meeting of the Canadian Dental Association, Edmonton, June 30, 1964.

I recently saw a beautiful set of dental radiographs that were made 25 years ago, using the long cone technique. I seldom see dental radiographs of comparable quality today. X-ray equipment is less bulky, more streamlined. Secondary radiation is reduced, and the decorator colours that are possible appeal to the eye. But are our pictures any better? As we expand our concepts of the biology of bone, of the fundamentals of occlusion, of the role of the temporomandibular joint, has dental radiology kept pace on this expanding horizon? The answer, at least as far as conventional dental radiography is concerned, is a categoric 'no.' Whether there are 12, 14, 18 or 20 compartmentalized views of the teeth, mounted in an attractive plastic holder, much can be missed even with the best technique. It is a sad commentary on the pressures of the day, and perhaps the lack of remuneration for services rendered, that we seldom see the best in dental radiographs. Non-standardized techniques that yield distorted and magnified tooth morphology, roots cut completely off the picture, overlapping contact areas, and no view at all of areas contiguous to the teeth, do not improve our diagnostic acumen.

Obviously, the first crying need is to improve our methodology in dental radiography. Standardized long cone techniques, proper and careful placement of film, and precise dark room procedures are essential. Radiographs are not an end in themselves—particularly a monetary one—but an avenue toward greater understanding of manifold dental problems. But even the best dental radiographs have severe shortcomings. The mind's eye may join the individual films, giving us a mental image with some continuity; but in reality, much is left out. Overlapping views are a necessity. The mechanics of film placement, film size, and limitations imposed by dental morphology restrict our cumulative information to the teeth and part of the bone of the alveolar process, at best.

Various techniques have been developed to study the temporomandibular joint radiographically. But most of these techniques are empirical. They require special equipment and training, and they

give distorted and varying views in serial examination. The cephalometric head-plate has been of great help to the orthodontist and to the oral surgeon in particular. But the cephalogram reduces a three-dimensional object to flat plane. And it superimposes left and right sides in reasonably sharp focus, producing a confusing image whose components are difficult to separate at times.

Paatero, of Finland, recognized these problems shortly after World War II.^{1,2} Paatero was aware of the use of body section radiography (tomography or laminography). By carefully synchronizing the source of radiation and the film, it is possible to obtain a radiographic image of a particular area or layer within a three-dimensional subject. With rotating x-ray head and film cassette, everything is thrown out of focus except the precise level of structures of interest to the radiologist. Thus it is possible to make laminographs of the thoracic cage, vertebral column or temporomandibular joint at a pre-determined level, blurring out contiguous and intervening structures. Even the best tomographic techniques do not completely eliminate the blurring effect. Thus the desired images are never perfectly sharp. But it is possible to gain much information, and the observer soon learns to sharpen his interpretation and compensate for the slight reduction in image detail. The limitations of conventional dental radiography, the difficulty of film placement, gagging, and occurrence of occasional trismus and injuries induced Paatero to try to develop a tomographic technique that leaves the film completely outside the mouth, yet projects an image of the teeth and surrounding tissues. If a layer or lamina could be reproduced in a radiograph, possibly the same could apply to a curved structure. But the dental arches form parabolic curves, not true circles. Therefore would the thickness of the cut made by the rotating x-ray source and film be great enough to keep the dental structures reasonably sharp and properly related to each other?

Since the principles of dental radiography and photography are the same as far as depth of field, magnification and distortion are concerned, we can under-

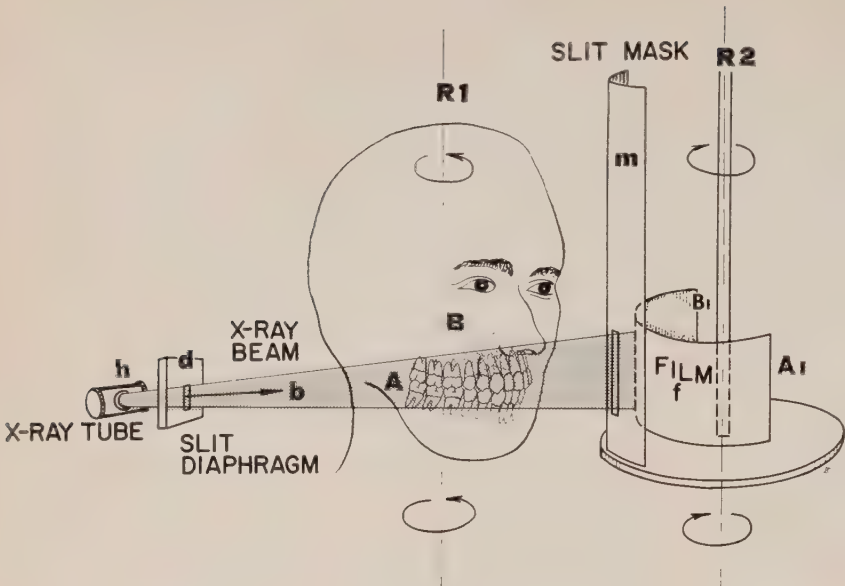


FIGURE 1 Diagram of Watson Rotagraph. This is a tomographic instrument employing one centre of rotation (concentric). Patient rotates on axis R1 as the curved film (f) rotates in the opposite direction on axis R2. X-ray tube (h) sends beam (b) through slit (d) to project image of patient's structures on his left side (B), so as to strike film in B1 area. With completion of rotation, beam will project structures on patient's right (A) so that they strike curved film in A1 region. (After Kumpula, J.W., J.A.D.A. 63:194, 1961.)

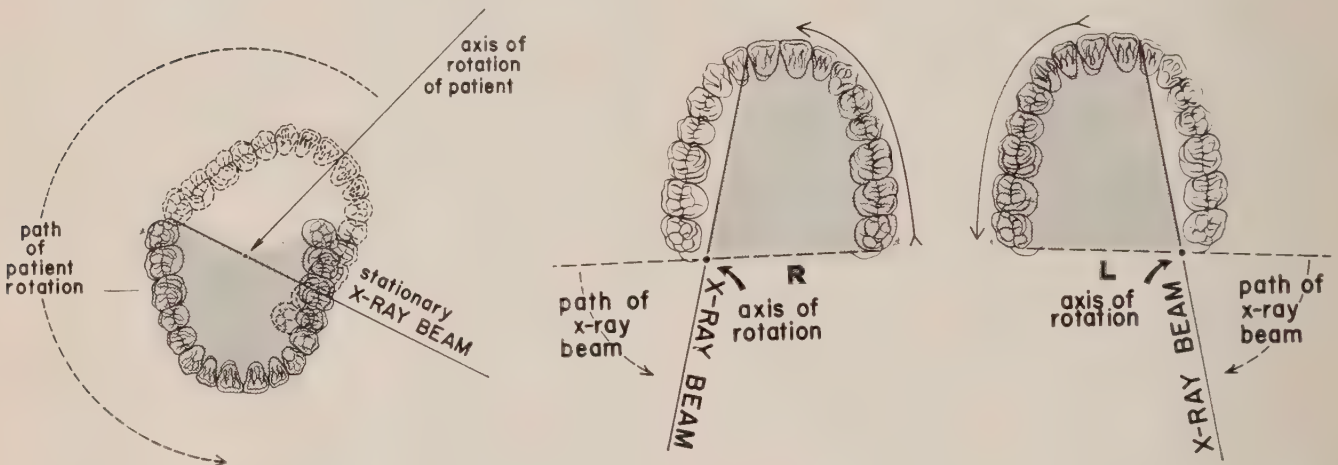


FIGURE 2 A, Concentric technique diagram. Hatched area shows extent of exposure. Patient moves around stationary x-ray beam. B, Eccentric technique diagram. Two centres of rotation just behind third molars. X-ray source moves around stationary patient. Patient shifts approximately three inches as beam reaches midline, to allow the change in the rotational axis for the opposite side. (After Kumpula, J.W., J.A.D.A. 63:194, 1961.)

stand the problem better if we think in terms of light rays instead of x-radiation. By keeping the focal spot small, collimating the radiation to as narrow a slit as possible, and maintaining a reasonable distance between the source of radiation and the object, Paatero obtained a half to three-quarters of an inch depth of field.³⁻⁹ His first efforts consisted of a single centre of rotation for the tube and film holder. This centre was at a point just behind the third molars. Blackman in England followed this principle and developed the Watson Rotagraph (Figure 1).¹⁰⁻¹⁴ The patient rotated on one axis, in one direction, (R1) while the film rotated in the opposite direction on another axis (R2) as shown by the illustration. The x-ray beam remained stationary. This method

is fairly satisfactory for young children and persons with brachycephalic faces. But distortion and blurring occur in the dolichocephalic individual, where the buccal segments are flat and the anterior segment is the arc of a much smaller circle.

Paatero coined the term pantomography as a contraction of the words 'panoramic' and 'tomography.' He spent 18 months in the United States where he developed a prototype machine at the University of Washington in Seattle. Recognizing the limitations of the concentric pantomogram, using one centre of rotation, Paatero developed a technique using two centres of rotation, one for each side of the face (Figure 2). He called this the eccentric technique or pantomogram. Here the

centre of rotation was behind the third molars on the side opposite that being radiographed, and the machine swung over from one axis to the other as it passed the midline. Furthermore, the x-ray tube itself was moved along with the moving and rotating film holder.¹⁵

Using the eccentric technique, with two centres of rotation, one for the right side and one for the left, the United States Air Force and the National Bureau of Standards developed a panoramic dental x-ray machine for use in mass surveys.^{16,17} This machine, now being produced by S. S. White Dental Manufacturing Company and XRM, is called the Panorex (Figure 3).¹⁸⁻²¹ The patient is immobile with the head mounted on a chin rest, while the tube and film move. As the tube moves around the patient, the film moves within the film holder, past the exposure slit, exposing a different part of film as each structure is penetrated by x-radiation. The resultant image is a panoramic pic-

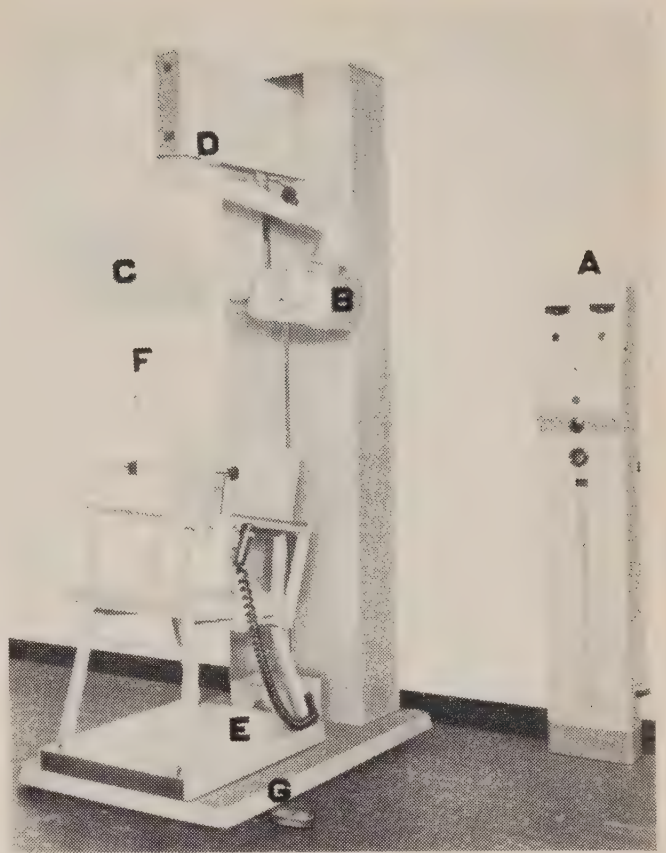


FIGURE 3 Panorex tomographic instrument modeled after prototype developed by U.S. Bureau of Standards and U.S. Air Force. A, Controls and transformer. B x-ray tube. C, Film cassette holder, with narrow exposure slit. D, Cam and cable assembly for rotating x-ray tube and film holder around stationary patient. E, Chair and base for patient. Base shifts three inches to change rotational axis when film holder and x-ray tube reach midsagittal plane in their rotational cycle. Hand control hangs on chair when not in use. F, Chin rest. G, Foot control to raise and lower exposure assembly B, C, D to fit patient in chair.

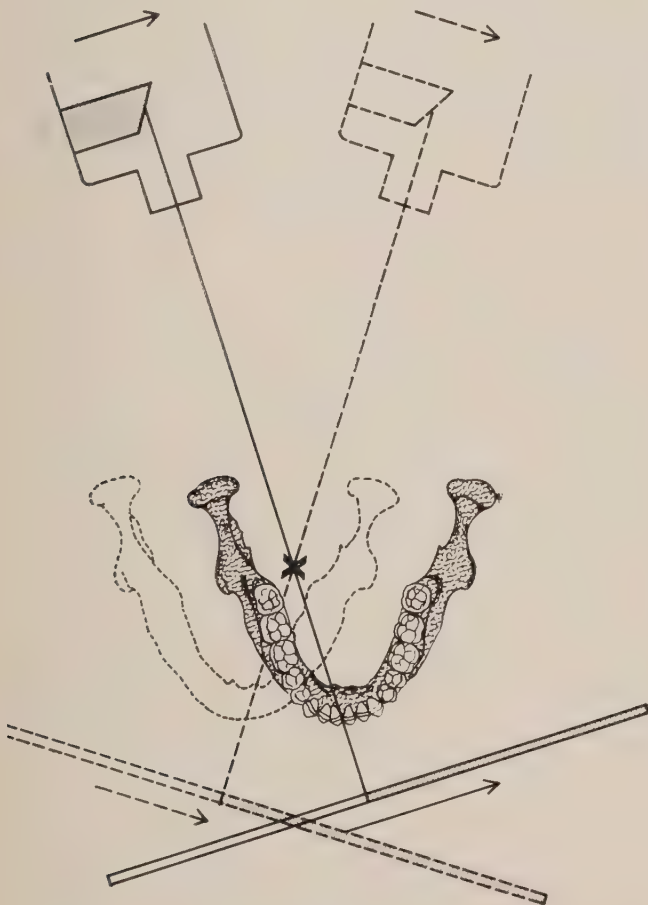


FIGURE 4 Diagram after Updegrave to show mechanism of chair shift to change rotational axis for eccentric tomographic technique. Note lateral shift of patient to accomplish axis change at midsagittal plane.

ture of the dental arches and temporomandibular joints. As the x-ray tube approaches the midline, the chair itself shifts to get past the vertebral column, and the new centre of rotation is then followed on the opposite side (Figure 4). This is accomplished by means of an irregularly shaped cam and cables which maintain a synchronization of the image and the film cassette. Since the central part of the film is blurred, and there is an overlapping as a result of the movement, this is usually cut out and the two films are remounted with cellulose tape.

Paatero tried to improve the Panorex further in order to eliminate having to splice the film as well as overcome the inability to reproduce the lower incisors accurately.^{22,23} Not that the Panorex has not been useful and successful, because

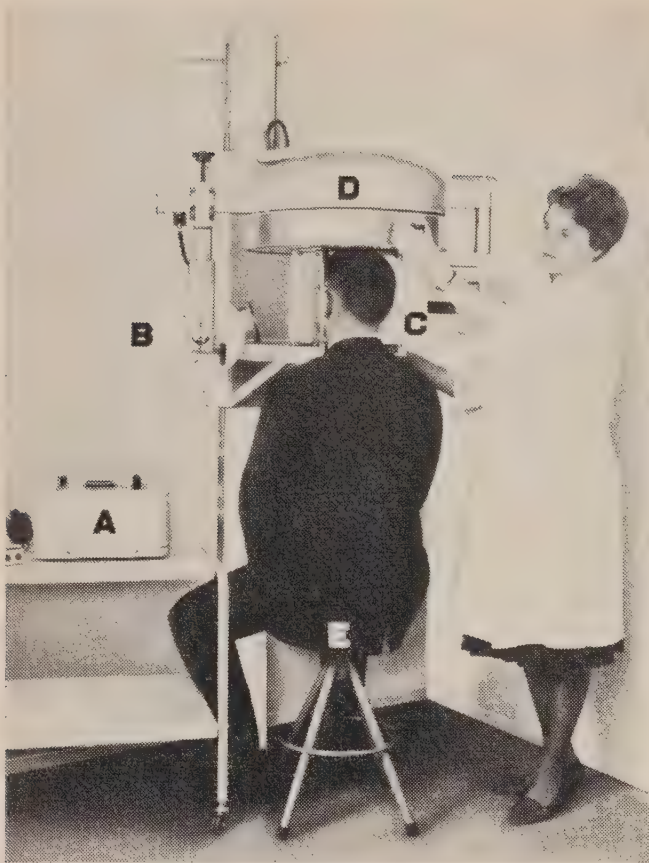


FIGURE 5 Orthopantomograph using three rotational axes. A, Controls. B, X-ray tube. C, Film cassette holder. D, Motor and cam assembly for rotating x-ray tube and rotating cassette holder around the patient. E, Patient sits on ordinary stool or stands up during exposure. There is no shift at the midline.

there are more than 225 of these units now in use. But Paatero felt that a further refinement could maintain the image on one unspliced film, with an accurate representation of the maxillary and mandibular anterior segments. Since the paraboloid curvature of the jaws really describes three arcs—the left buccal segment, the anterior segment and the right buccal segment—he developed the Orthopantomograph (Figure 5), which uses the eccentric technique in combination with the concentric technique. As with the Panorex, the left and right side have centres of rotation just behind the third molar on the opposite side to that being radiographed. On the anterior segment, however, there is a centre of rotation directly behind the incisors, at about the level of the bicuspid regions (Figure 6). Thus, for a single exposure, the tube and synchronized film holder would move from position one to position two on the centre of rotation R1, providing an image of the far side of the jaw on the film. At the cuspid eminence, the tube and film holder swing to a new centre of rotation R2 and proceed to radiograph the anterior segment on this new arc. As the opposite cuspid eminence is reached, the

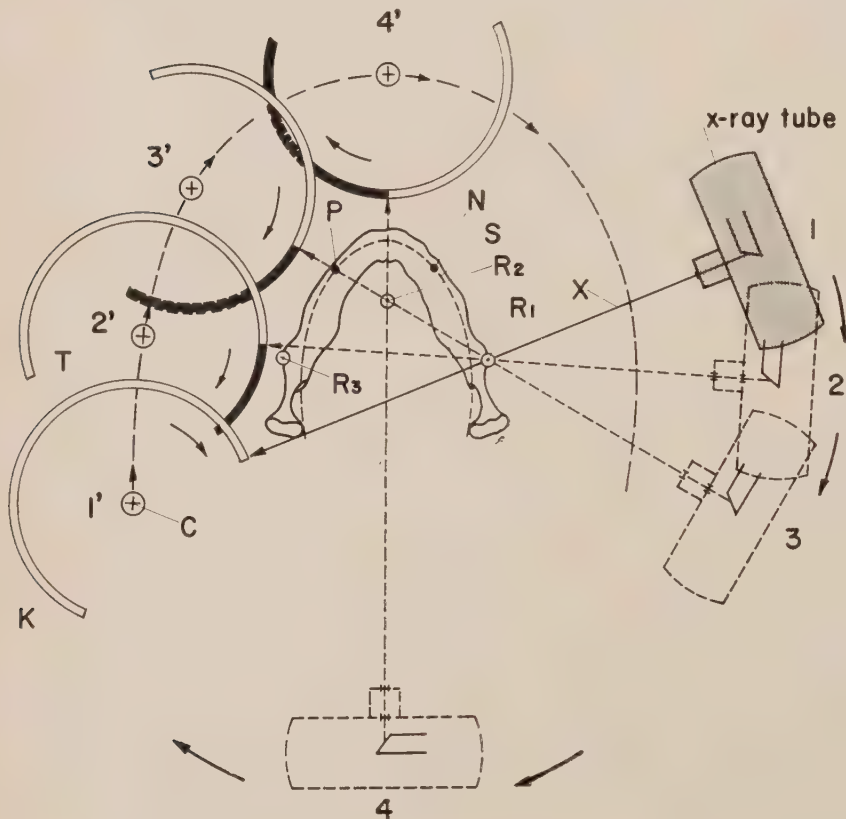


FIGURE 6 Combined concentric and eccentric tomographic principle, with three rotational centres; one for the left buccal segment, one for the anterior segment, one for the right buccal segment. The orthopantomograph works on this principle, changing axes in the cuspid-first bicuspid regions. The x-ray beam turns around rotational centre R1 first to radiograph the left side. At the first bicuspid-cuspid region, the axis changes to R2 to radiograph the anterior maxillary and mandibular portions; structures from P to N are in focus. As the beam reaches S, it swings over to R3 rotational axis, and projects an image of the right side on the rotating film cassette, with all structures from S to the right condyle in focus. (After Paatero)

centre of rotation changes to R3 which is now the near side of the mandible, and describes a new arc back through the posterior structures and past the temporomandibular joint.

Paatero,²² Nelson,¹⁵ Kumpula,¹⁹ Blackman,¹¹ Kraske and Mazzarella²¹ and others have attempted to develop equipment that gives the sharpest possible continuous image of the curved surfaces that make up the stomatognathic system. Since these curved surfaces describe arcs of varying degrees, a single concentric, one-centre rotation principle is limited. The two-centre eccentric rotation method for the left and right side, as exemplified in the Panorex, has been most successful but has certain limitations. The three-centre rotation technique, as shown in the Orthopantomograph, represents a further attempt to keep all areas sharply defined and in their proper relationship.

One further type of machine is the panagraph, developed by Ott and Blackman, which places the source of radiation in the centre of the mouth, with the film adapted to the face around the outside.^{14,24} This is, of course, a concentric method, but because the source of radiation is close to the teeth and the film also reasonably close, the image is sharper and distortion is reduced (Figure 7). Magni-

fication is more than twice normal size, but a focal spot of 1 mm. keeps the image sharp. Problems of excessive radiation, protection of the patient, and a reduced field are major limiting considerations, however.

A major part of this paper is devoted to a comparison of the two most common panoramic radiographic units—the eccentric two-rotational axis Panorex machine produced by XRM and S. S. White Dental Manufacturing Company and the eccentric and concentric combination, three-rotational axis Orthopantomograph, produced by Sarjavilmiste of Finland and Siemens Medical X-Ray of Germany. Both machines are used in our Kenilworth Dental Research Foundation and our staff has had ample opportunity to work with and appraise the relative advantages and disadvantages of each.

The Panorex is an automatic exposure machine with very short exposure time. The 90 KVP x-ray tube has a 0.8 mm. focal spot and the target-film distance is approximately 17 inches. The target-object distance varies with the head size and the region being radiographed and ranges from seven to 13½ inches. Actual exposure time is 22 seconds. An additional 60 seconds are needed to position the patient properly. Ionization chambers in-

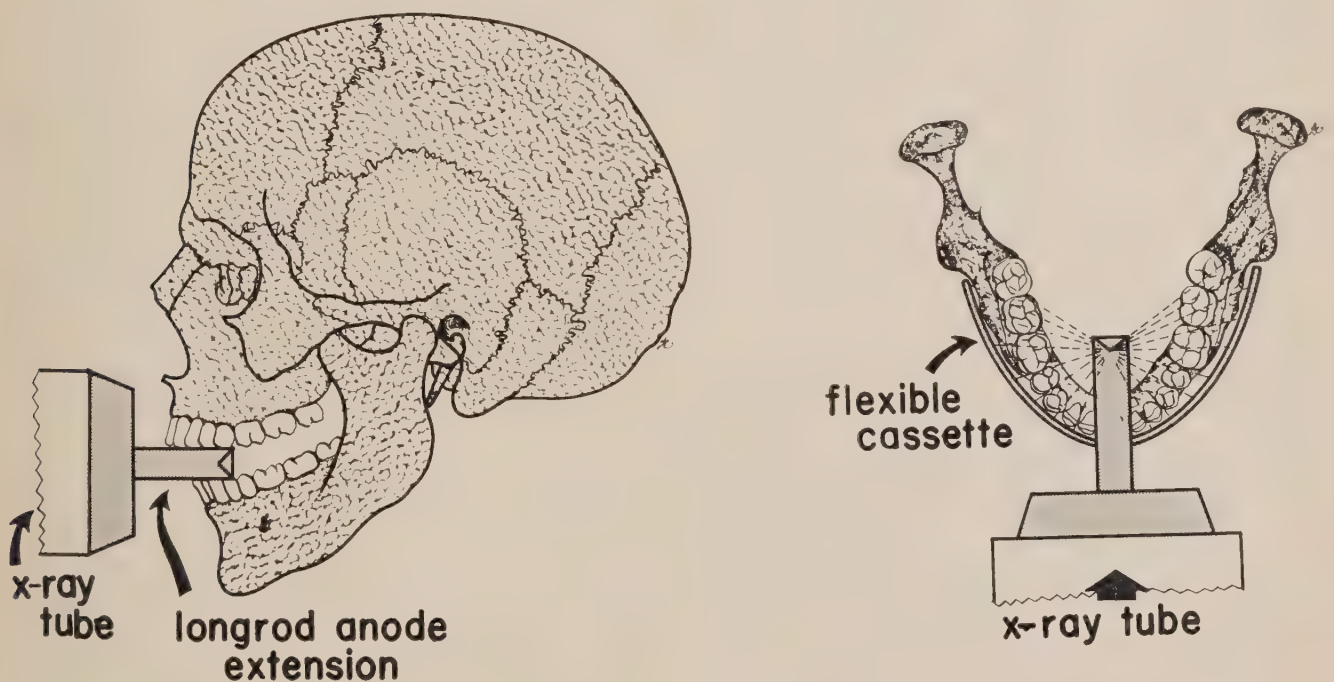


FIGURE 7 Drawing after Updegrave to show tomographic technique where radiation source is in centre of mouth, and film is wrapped around face in a flexible cassette. Radiation source rotates while patient and film remain stationary.

dicating an output of 0.230 r. per second at a 12 inch target-chamber distance. The radiation source is filtered and the beam quite narrow. A routine exposure taken at 86 KVP and 8 MA exposes the patient to a total of 5.06 r. This compares most favourably with a full-mouth dental examination in which both the skin dose and thyroid gland region dose is many times that of the radiation emanating from the Panorex. In his clinical study of the Panorex, Mitchell notes that "it is estimated that the highest level of radiation at the skin for each Panorex exposure as made in the study would not exceed .021 r. This is less than the estimated dose to the patient resulting from a single oral exposure, using ultra speed film. The total area of skin surface exposed at any one time during the Panorex cycle is estimated at less than one square inch, whereas each intra-oral exposure covers approximately six inches, assuming collimation of the beam to a circle 2.75 inches in diameter."²⁵

The 14 to 18 exposures necessary for a full-mouth dental intra-oral examination take considerably longer than the minute and one-half needed with the Panorex. Development of these 14 to 18 films is also much more time consuming. Obviously then the elimination of changing x-ray tube angulation, changing KVP and MA, inserting individual films, adjusting different time intervals and exposure factors, adjusting the patient's head, and so forth, is a major advantage for the Panorex. Countering this is the fact that routine panoramic films do not always have the same degree of sharpness in various areas of the mouth. The 'focal trough' or the area in which the image is reasonably sharp in detail is relatively narrow—a half to three-quarters of an inch—and variations in jaw morphology can and do result in some areas being fuzzy because they lie outside the focal trough or arc around the rotational axis. In addition, despite the use of a relatively slow speed DuPont film, rather than the faster speed Royal Blue, it is essential to use intensifying screens. Since these convert x-radiation into light, they cause a general blurring effect and reduce the sharpness of the image. To demonstrate

this, the use of pictures of screen wire with and without intensifying screens shows a marked contrast in detail. Even with the very best exposure factors, where all the teeth stay within the focal trough, the quality of detail is less than that of the routine dental film where no intensifying screens are used. Cephalometric radiography also is limited in this respect by the use of dual intensifying screens.

As indicated before, there are in reality two exposures with the Panorex, one for each rotational axis or one for each side of the head, with the centre part blurred as the entire chair shifts past the vertebral column. At times, a difference of radiographic intensity is noted in the area of this shift and when the centre portion is cut out, there is a significant difference in quality of the radiographic image. Moreover, because of the eccentric rotational axes, the lower incisors are not seen in true profile and often appear to slant toward the midline with a certain degree of distortion. Also, no matter how carefully one tries to cut the film at the midline, getting the maxillary incisors in their proper relationship, there always seems to be anywhere from one-half to one extra tooth at the midline of the lower arch because of the distortion. This is a definite limitation of the Panorex radiograph. While the Panorex does not produce as symmetrical a projection of the teeth and supporting structures as is made by the concentric technique, where there is one-centre rotation, it does make a better projection of the buccal segments.

The Orthopantomograph, with its combination of the concentric and eccentric rotational axes for the radiation source and film holding cassette, attempts to eliminate the shift of the dental chair and the imperfect representation of the mandibular incisor teeth. Two exposures are taken with the Panorex and, as has been pointed out, the film is then split down the centre and spliced to eliminate the blurred centre section caused by the chair shift. With the Orthopantomograph there is only one single exposure. This is carried on through the complete cycle, with a shift in rotation axis at approximately the first bicuspid region on each side. To

shift the rotational axis during exposure and still maintain a smooth, constant and progressive exposure of the film is a technical challenge and the discerning radiologist can usually pick up the point of axis change on orthopantomograms of younger patients (Figure 6).

The cycle of an Orthopantomograph is only 15 seconds as opposed to 22 seconds for the Panorex. This reduces the likelihood of patient movement and, of course, the total amount of radiation. However, radiation is no problem, since the Panorex is well below what it would take for an ordinary full-mouth set of dental radiographs (which are within a safe tolerance by themselves) and the Orthopantomograph is a third less. The new Orthopantomograph has a focal spot of similar size to the Panorex, giving a relatively sharp image. Exposure factors are also similar—80-86 KVP but with slightly greater milliamperage to make up for the shortened exposure time—15-20 MA, as opposed to 10 for the Panorex.

Patient positioning is more critical for the Orthopantomograph because the anterior rotational axis has been added. Magnification and distortion appear to be greater. The incisor teeth must be as vertical as possible in the head-holding device and even minimal tipping of the head produces demonstrable distortion. If patient positioning is correct, then the unbroken, panoramic view of the stomatognathic system from temporomandibular joint around the arch to the opposite temporomandibular joint is a fine spectacle.

While the Orthopantomograph gives a routinely good picture of the relationship of condyle and the articular eminence, there is a special condyle shot position which moves the head forward, and gives excellent profile representations of the condyle and contiguous structures. Various functional positions and relationships of the condyle, fossa and articular eminence can be reproduced rather precisely with this technique. Because the tomographic or laminographic technique blurs out intervening bony structures, the resultant radiographic images make it a simple matter to interpret morphology of the bony components of the temporomandibular joint.

ADVANTAGES AND DISADVANTAGES

The following advantages of both the Panorex and Orthopantomograph may be listed as follows:

1. Comfort. The patient is immobile, but the head is maintained in a natural, erect position and no films are inserted in the mouth. The actual time of exposure is only 15 seconds for the Orthopantomograph and 22 seconds for the Panorex. The total time of positioning the patient and exposure should not exceed a minute and a half.

2. Ease of operation. Difficult patients, young children, patients who gag, patients with trismus, or edentulous patients find the panoramic examination much easier. In some instances, routine dental radiographic examination would be impossible.

3. Less total radiation. Selected intra-oral dental radiographs may still be made where indicated. Nevertheless, total exposure remains well below that of a conventional full-mouth dental radiographic examination.

4. Additional information may be gained that would not be available from dental or cephalometric radiographic examination. Neoplasms, cysts, supernumerary teeth, congenitally absent teeth, impactions, improper restorations, and so forth may be seen readily with panoramic radiographs. The temporomandibular joint and mandibular morphology, as well as the maxillary sinuses and the mastoid air cell region, show up remarkably well.

There are certain disadvantages to panoramic radiography:

1. For precise information on dental caries and on the periodontal membrane, the panoramic radiograph is no substitute for properly made dental radiographs. The intensifying screens and the tomographic process do not give as sharp an image as that of the dental radiograph. Newer films and better screens and other technical advances may improve the panoramic x-ray image, but at present it does not compare with that of a well made dental radiograph. This does not mean that diagnostic information is not available. Most carious lesions can be seen in panoramic radiographs. But, to be sure, dental radiographs must also be made.



FIGURE 8 Panoramic radiographs taken with Panorex (A) and Orthopantomograph (B) during mixed dentition. Problems of space adequacy, tooth size, root resorption, direction of eruption, status of third molars, etc., all are visualized with the aid of panoramic radiography. Such records are particularly valuable for serial extraction.

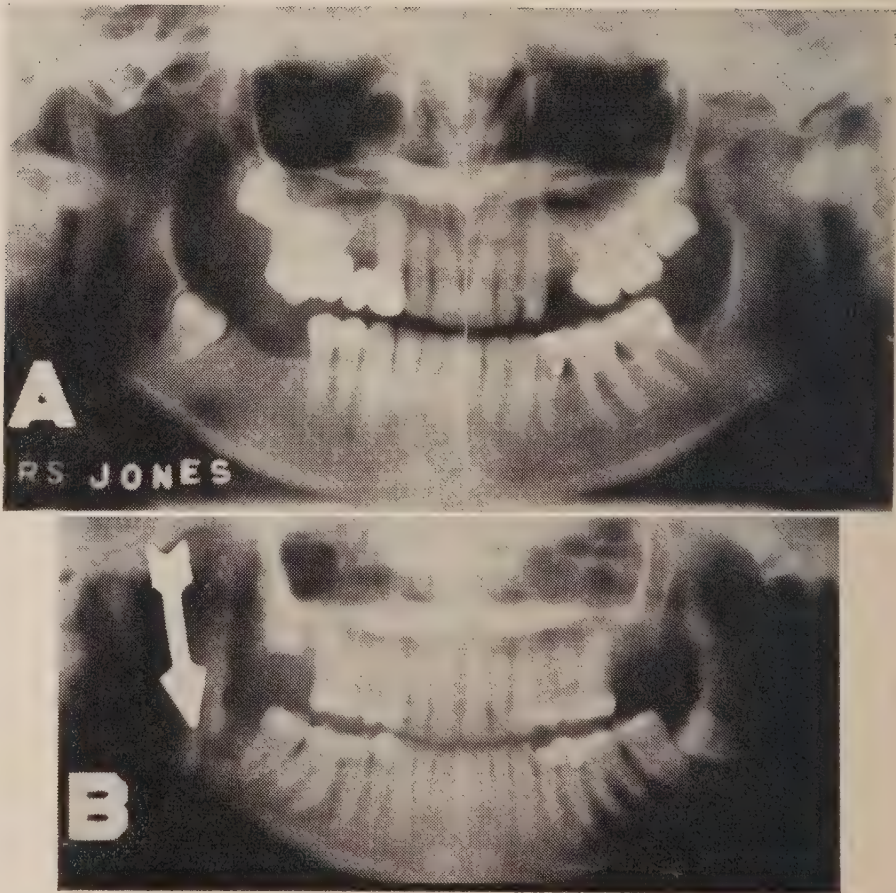


FIGURE 9 A, Young adult with Class III malocclusion, missing teeth, temporomandibular disturbance and impacted third molars on the right side. All aspects of the problem are seen on a single panoramic view, and the surgeon has a precise outline of mandibular morphology in event he wishes to perform a resection. B, Comminuted mandibular fracture, radiographed without patient opening the mouth. The extent of surgical challenge is readily apparent.

2. In the Panorex, the lower incisor area is not clear. There is some overlapping as a result of the two-axis eccentric approach, and it is necessary to splice films. There is usually a half tooth extra as a result of the splice. Inclination of the lower incisors is usually slanted, with the crowns tipped toward the midline. A separate view, with the head tipped back and the lower incisors perpendicular to the central ray, largely eliminates this, but then the upper incisors are distorted. Two views are recommended where both upper and lower incisor information is desired. Generally speaking, one conventional view suffices, but in cases where an anterior supernumerary tooth is expected, the Panorex view is not adequate.

The Orthopantomograph does not have this problem, since the continuity of the film is unbroken from condyle to condyle. More precise positioning is required, however, with the Orthopantomograph, and there are times when the first bicuspid region produces an area of poor diagnostic value because of the change of rotational axis on each side at this point. In my experience pictures are not as sharp as with the Panorex. This, too, may be eliminated through technical improvements, but at present this feature is a definite disadvantage. Thus the buccal segments are better in the Panorex; the lower anterior segment is usually better in the Orthopantomograph.

3. Expense of the equipment. The initial cost would buy three or four dental x-ray machines. Yet routine dental radiographs cannot be made with this equipment. Another machine must be procured for this purpose. In addition, panoramic radiographic equipment is quite bulky.

While the Panorex equipment uses much more floor space than the Orthopantomograph which is mounted primarily on the wall, both units take up more space than a conventional x-ray machine and this might be a factor in a crowded office.

4. A year and a half of intensive use of panoramic radiography reveals that not all head shapes produce the best possible pictures. Particularly, not all jaw or arch form morphology is shown to best ad-

vantage in panoramic examinations. Very large or very small heads have dental structures outside the one-half to three-quarters of an inch depth of reasonably sharp radiographic focus. Very broad heads and dental arches and very narrow and long heads and dental arches again have areas that are not sufficiently sharp.

USES OF PANORAMIC RADIOGRAPHY

1. *Growth and Development.*—Knowledge of normal growth and development in children and recognition of departures from the normal pattern are imperative to assure each patient a healthy, properly functioning occlusion that will last a lifetime. Panoramic radiography will do much in this regard. Such things as delayed eruption pattern, abnormal eruptive direction, abnormal resorption, supernumerary teeth, cysts, congenitally absent teeth, ankylosis, prolonged retention, space inadequacy, to mention a few, require early recognition and interception (Figure 8). They can be seen in panoramic views. Such examinations are particularly critical during the mixed dentition period.

2. *Temporomandibular Joint.* — Various techniques have been described by Lindblom,²⁶ Lewis,²⁷ Grewcock,²⁸ Gillis²⁹ and McQueen³⁰ to provide better radiographic visualization of this all-important area. Yet the panoramic radiograph, and particularly the Orthopantomograph, produces a sharp and accurate profile view of condyle, eminence and fossa that is reproducible and superior to most so-called temporomandibular joint views (Figures 8B, 9A). In view of the frequency of overbite, bruxism, clenching, and other temporomandibular joint complaints in adult patients, we cannot ignore this centre of stomatognathic function.

3. *Sinuses and Mastoid Region.* — Many dental complaints have been traced to sinus infection. Many a root tip has been displaced into the antrum because the proximity of the maxillary sinus to molar and bicuspid roots could not be seen accurately on a dental radiograph. This is

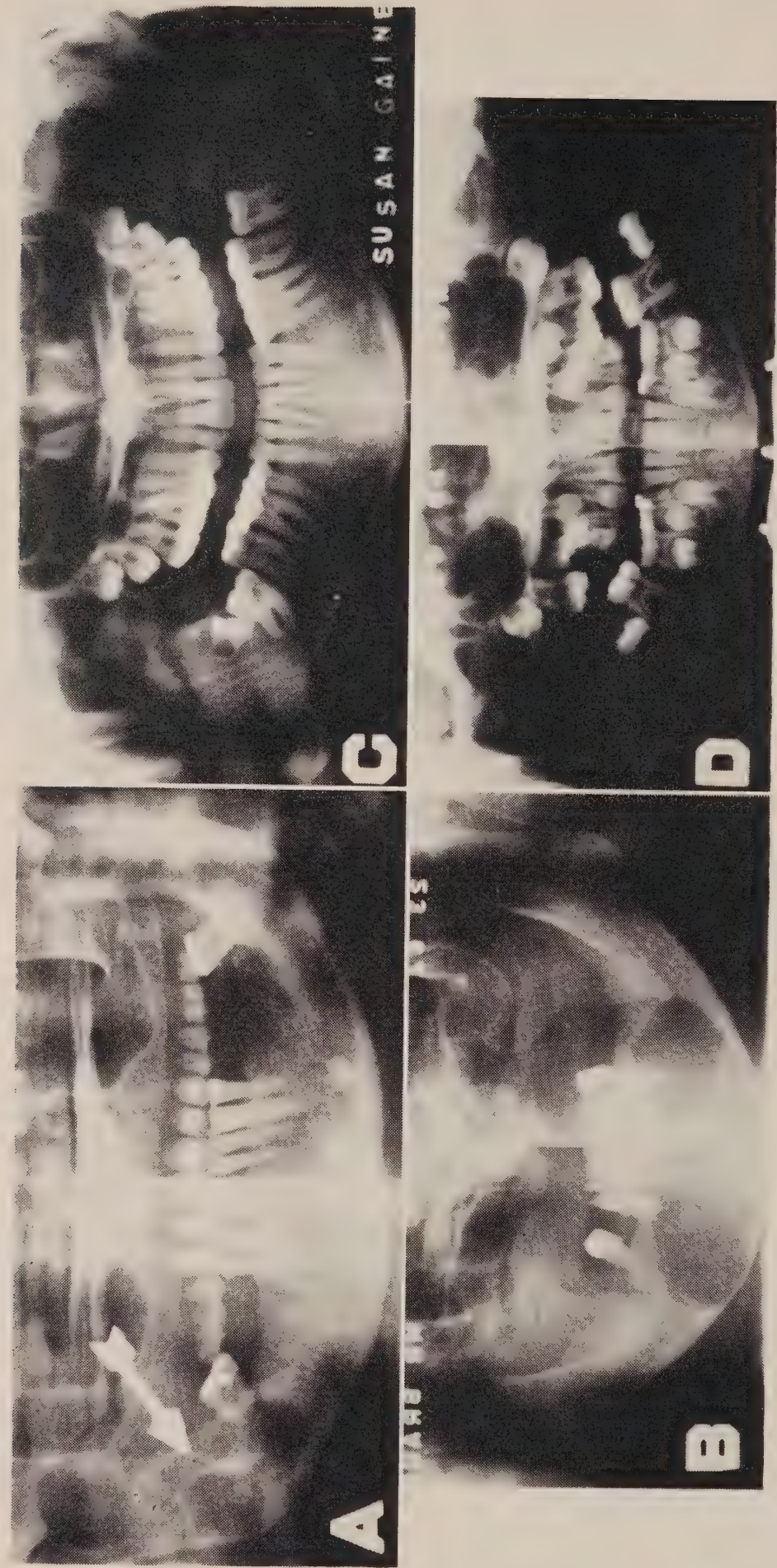


FIGURE 10 A, Ameloblastoma and B, extensive cyst extending from first molar to first bicuspid. C, Fourth molars appearing after four first bicuspids had been removed for orthodontic reasons. D, Ankylosis of second deciduous molars and ectopic eruption of upper left first molar causing early loss of contiguous second deciduous molar. This is an imminent serial extraction problem and can be recognized early with a panoramic radiograph.

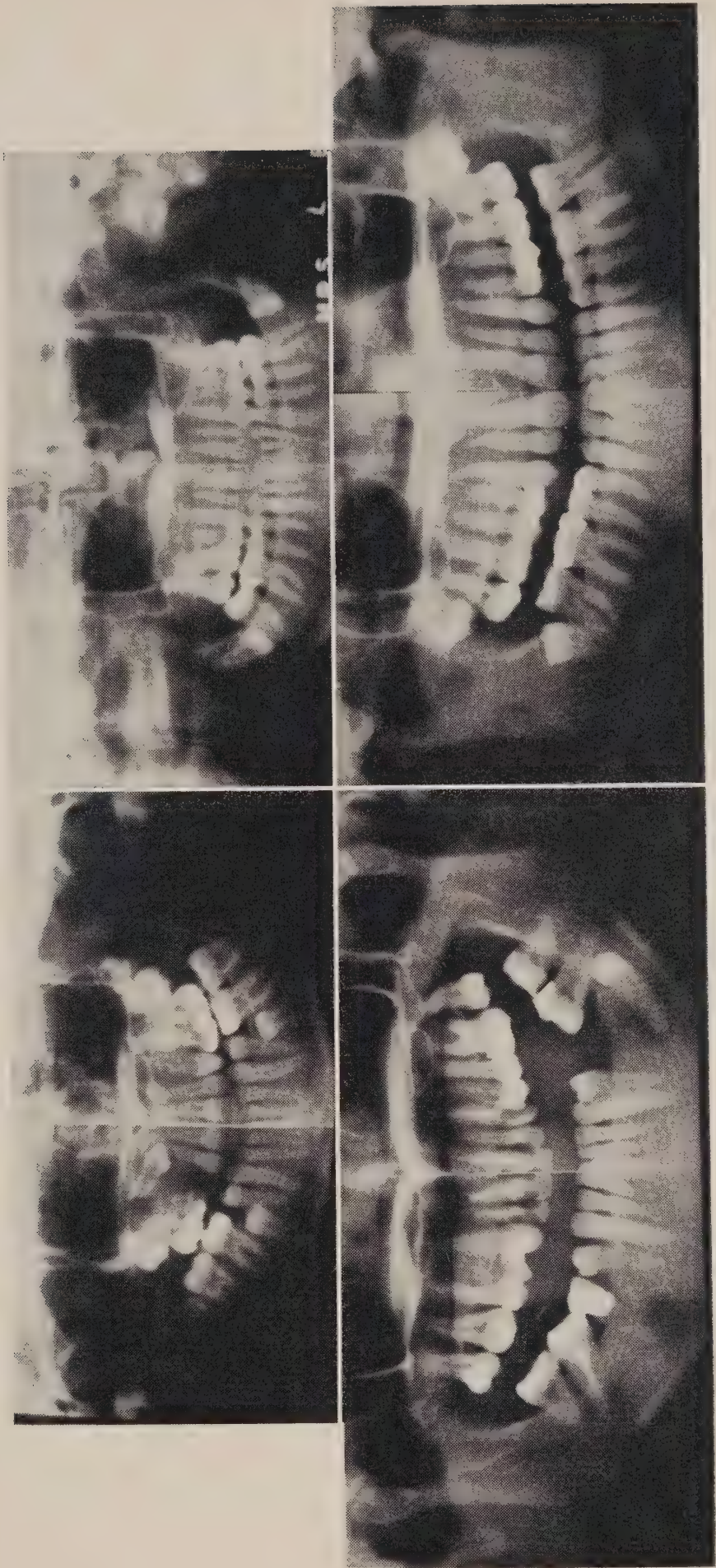


FIGURE 11 Varieties of impactions.

just one of the reasons why many oral surgeons now routinely make panoramic radiographic views before attempting any operation. Definitive views of the mastoid region can be seen readily with the Orthopantomograph and thus this machine also has value to medical specialists. Successful visualization here, as with temporomandibular joint pictures, is due to the tomographic, body sectioning nature of the panoramic radiograph.

4. *Mandibular Morphology and Fractures.*

—A particularly accurate view of mandibular shape is seen on properly taken panoramic radiographs. Cephalometric radiographs do this reasonably well, but left and right sides are projected on the same plane and the area mesial to the cuspid is pretty well lost. With a greater number of resections being done each year for Class III prognathism, there is less need for the so-called 'blind' operation. The surgeon can define in advance the shape of the mandibular structures, and can subsequently determine very precisely the relative success of his efforts (Figure 9A). No longer need he depend on cephalometric radiographs and non-standardized and non-oriented lateral jaw views which give him only a part of the picture, and a distorted part at that.

The same rules apply to the treatment of jaw fractures (Figure 9B). Information concerning the apposition of parts, sloughing, progress of healing, and so forth is available from periodic radiographic examination.

5. *Pathology.*—Knowledge of growth and development is important for prevention and interception of incipient abnormalities. Conditions which cannot be prevented should be recognized early. Such recognition permits the application of proper orthodontic, surgical or operative corrective measures.

Neoplasms, cysts, supernumerary teeth, congenitally absent teeth, trismus, impactions, ankylosis, abnormal retention and premature tooth loss, abnormal eruptive path, abnormal resorption, improper restorations, overhanging margins and periodontal pathosis may be seen quite well

in panoramic radiographs (Figures 10-12). Comparative postoperative panoramic radiographs are as important as the original pre-operative ones.

6. *Space Adequacy.*—Of particular importance to the orthodontist is the question of space for all the teeth. A significant number of his patients have Class I malocclusion characterized by generalized crowding, rotations and individual tooth malpositions. Nance,³¹ Kjellgren,³² Hotz,³³ Heath³⁴ and Dewel³⁵ have shown dramatic results from serial extraction. Early removal of deciduous teeth, and possibly later removal of first bicuspids, may allow considerable autonomous adjustment. The measuring of teeth from casts of the patient and the attempted measurement of the width of unerupted teeth on dental radiographs are not always satisfactory. The panoramic radiograph shows the whole picture at a glance. Since magnification is relatively constant, measurements can be made. But even more important, the precise relationships of the deciduous and permanent teeth and the paths of eruption are clearly discernible. Periodic examinations are possible, showing the progress of serial extraction (Figure 13). A cephalostat, developed by Kane, permits precise positioning at varying intervals so that truly serial records can be made. This one use alone justifies panoramic radiographic equipment for orthodontists.

7. *Treatment Progress.*—An orthodontist thinks primarily of the progress of orthodontic treatment, but similar concepts apply to reconstructive and restorative treatment and to oral surgery. Parallel-ling the roots of teeth in serial extraction cases, avoidance of excessive tipping, avoidance of root resorption, maintenance of proper axial inclination, maintenance of the height of alveolar crests, and early detection of obvious carious lesions can be accomplished with the aid of panoramic radiographs. Selected radiographs made with the conventional dental x-ray machine supplement the panoramic examination, where needed (Figure 12D).

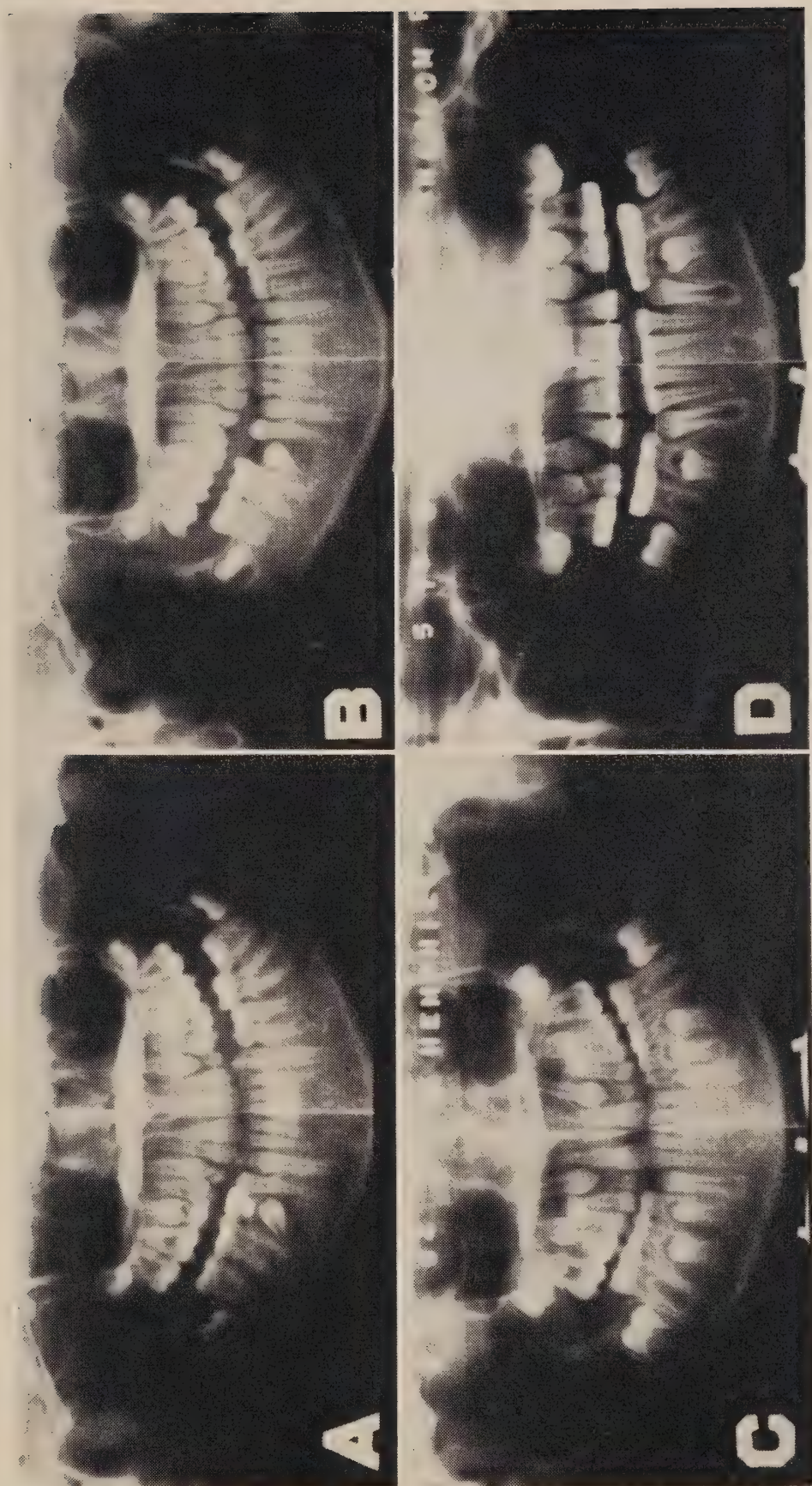


FIGURE 12 A, Cyst around lower left second deciduous molar, involving second bicuspid. B, Same case after removal of cyst, showing eruptive progress of second bicuspid. C, Congenital absence of maxillary lateral incisors. D, Progress report: orthodontic treatment with removal of four first bicuspids.

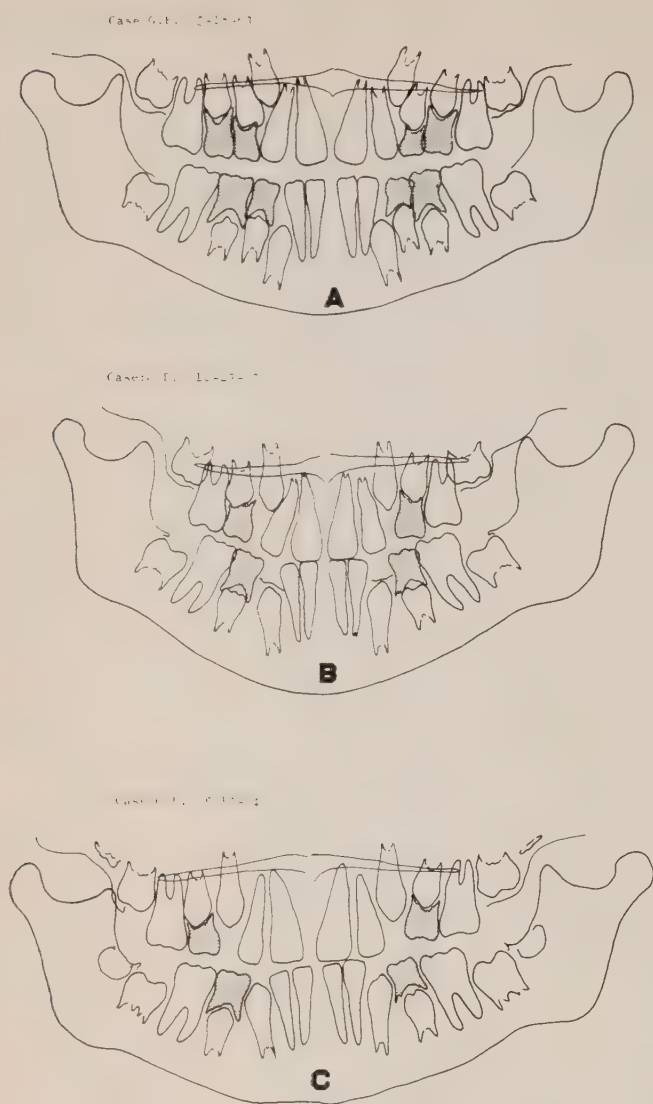


FIGURE 13 Same case as (D) in Figure 12. Tracings made at periodic intervals of panoramic radiographs taken to guide a pre-treatment serial extraction program. A, March 18, 1963. B, October 23, 1963. C, May 13, 1964.

SUMMARY

Several techniques have been developed to provide panoramic views of the teeth and contiguous tissues on a single extra-oral film. These techniques employ tomography, or body section radiography, literally taking a one-half to two-thirds inch slice around the dental arches and associated structures. This trough is in reasonably sharp focus, while all other intervening structures are blurred out of focus by the moving tube and film cassette. The greater target-object film distance, the use of intensifying screens, and the large amount of secondary radiation needed to provide the image make the picture less distinct than the conventional

dental radiographs despite the small focal spot of 0.8 mm. Properly taken panoramic radiographs, however, have sufficient diagnostic value to be used routinely in conjunction with spot dental radiographs to confirm diagnostic impressions made from the panoramic radiograph. A routine combination of a panoramic radiograph and bitewing radiographs offers the best diagnostic package. It supplies considerably more information than routine intra-oral periapical radiographs.

Panoramic radiography is a useful diagnostic tool in studying growth and development, resorption and eruption patterns, the temporomandibular joint, the sinuses and mastoid regions, mandibular morphology and fractures, and various pathological conditions such as neoplasms, cysts, supernumerary teeth, ankylosis, abnormal eruption, and so forth. Panoramic radiography is also applicable to serial extraction procedures and progress reports during therapy.

Two of the machines now in use (S. S. White Panorex, Siemens Orthopantomograph) are compared. The Panorex, with its eccentric, two centres of rotation and two cam adjustment permitting adult and child views, produces uniformly good, accurate pictures of the buccal segments and maxillary anterior teeth. The mandibular incisors are less accurate, though diagnostically acceptable. The film must be spliced in the centre, however, cutting out the portion that is blurred by a shift of the chair midway during the exposure.

The Orthopantomograph provides a continuous image on a single film, with no need to cut and splice. Patient positioning factors are more critical, however, and there is a tendency to lose a significant amount of information in the change of rotational axis. Since the Orthopantomograph uses three centres of rotation, instead of two, the changeover point at the first bicuspid region may show a lack of definition. Unlike the Panorex, no provision is made for a child or adult head as far as a variable 'focal trough' is concerned.

The significant amount of diagnostic information routinely available, the short exposure time, the relatively low amount of radiation and optimum patient comfort make this equipment a desirable addition

to the dentist's diagnostic tools. The high initial cost, the greater space requirements, the need for occasional selected and confirmatory intra-oral dental radiographs must also be considered in a truly objective appraisal.

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Evaluation of a stannous fluoride-calcium pyrophosphate dentifrice

A double-blind study tested the efficacy of a stannous fluoride-calcium pyrophosphate dentifrice in 1,713 Edmonton school children. Grade 1 and 2 children experienced reductions in DMFS increment of 39.2 per cent and 42.1 per cent after 10 months and 18 months respectively. Grade 7 children experienced reductions of 34.1 per cent and 38.7 per cent after the same intervals. These significant reductions are attributed to the dentifrice used by the experimental groups.

■

On a étudié d'une façon anonyme et à deux reprises chez 1,713 enfants d'Edmonton la valeur d'un dentifrice à base de pyrophosphate de calcium et de fluor d'étain. On a constaté, aux mêmes intervalles, chez les enfants de 1^{ère} et de 2^{ème} années, après 10 mois et après 18 mois d'usage de ce dentifrice, une réduction du taux DMFS de 39.2 pour cent et de 42.1 pour cent. Ces changements apparemment sont dus au dentifrice utilisé par ces groupes qui ont servi aux recherches.

Nutrition, dietary regulation and good oral hygiene combined with early and regular treatment were the mainstay of dental caries control for many decades. Although effective in individual control, they made little change in the general dental caries attack rate. However, with the added benefits derived from the use of fluorides, dental caries prevention and control now can be a practical reality in most communities.

The initial, and still the most practical, method is fluoridation of communal water supplies. Individual or home use on prescription is recommended in areas where effective fluoride levels are not present in the water; and the direct application of various fluoride preparations to the surfaces of the teeth affords additional benefits.

The benefits of fluoridation will not be immediately available to many communities and cannot be made available to a large segment of the rural population. It is also known that the beneficial effects of fluoride are cumulative.¹⁻⁵ These facts, coupled with commercial interest, have stimulated continued research in the topical fluoride field. Effective and practical topical agents and techniques have resulted, including the development of a stannous fluoride-calcium pyrophosphate dentifrice (Crest). The formulation of this dentifrice is: stannous fluoride 0.4 per cent, calcium pyrophos-

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phate 39 per cent, glycerin 10 per cent, sorbitol 20 per cent, stannous pyrophosphate 1 per cent, water 24.97 per cent, and other miscellaneous agents. The manufacturer of Crest dentifrice began to market this product in the Edmonton area shortly before commencement of the present study. This study was undertaken to investigate the efficacy of this dentifrice.

STUDY DESIGN

In previous dentifrice clinical studies all ages were grouped into either children or adults.⁵⁻¹¹ But oral hygiene and diet differ with age. We therefore tested the efficacy of the stannous fluoride-calcium pyrophosphate dentifrice in two specific age groups (grades 1 and 2, and grade 7 children) in order to reveal any possible age-specific differences in effect. During the period of testing the permanent teeth of the younger age group (grades 1 and 2) were newly erupted or in the process of erupting. This factor may also influence the efficacy of the dentifrice. We also tested the dentifrice under as nearly normal conditions of use as possible, since the practical effectiveness of such a product is a function of its use under such conditions.

A stable residential area in Edmonton was selected for the study. Fluoride levels in the communal water supply are negligible (0.1 ppm). Schools of unusual character were excluded as were unusual classes, such as retarded children. The subjects were accepted into the study on a volunteer basis with written parental or guardian's consent.

An effort was made to enlist all subjects in any one classroom.

Only grades 1 and 2, and grade 7 were selected. Each of these two age groups were divided into two similar sub-groups according to (a) age and sex, and (b) caries history based on findings of the initial visual examination.

Adjacent subjects within arrays were assigned by coin toss to one of two groups indicated simply 'D' or 'H.' The investigator did not know which was the control and which was the experimental group.

Each subject was given a tooth brush and the appropriate dentifrice in a blank white tube labelled 'D' or 'H.'

To minimize the possible effect of non-study dentifrice, enough dentifrice was provided monthly to each individual to supply the household for the test period. Additional tooth brushes were distributed as required.

All examinations were carried out and all radiographs interpreted by the same examiner. Examinations were done without prior prophylaxis and without prior warning so as to judge the participants' usual oral hygiene. Care was taken to ensure standardization of criteria and procedure by obtaining a high degree of diagnostic consistency prior to commencing the study. Generally recognized criteria for diagnosis of incipient clinical lesions were used.¹² All surfaces were air-dried before examination.

Bitewing radiographs were made of all teeth where each surface could not be thoroughly examined with an explorer. The number of films varied from zero to 10 per individual, depending on the dental age of the child. The average number was three films for the younger age group and seven for the older group. Unsuitable films were discarded. In that event new radiographs were made or the subject was excluded from subsequent tabulation. The interval between visual and radiographic examination was usually less than one week. All radiographs were taken by the same dental hygienist, using a long cone technique. Dark room facilities and staff at the University of Alberta were used to ensure a consistent standard developing technique.

Subjects were examined initially, then after 10 months and after 18 months. All visual examinations and radiographic interpretations were made completely independent of previous examination records, the examiner being unaware of the group or previous caries history of any individual. Previous records were only used to correct errors in tooth position after examinations were completed. No change was made regarding caries findings.

Only permanent teeth were considered and recorded both by DMFT and DMFS indices. Fractured teeth, banded teeth and teeth extracted for orthodontic reasons

TABLE 1 Initial, 10 month and 18 month balance of subjects participating in the Edmonton stannous fluoride dentifrice study.

Group*	No.	Sex		Dental age	DMFT	DMFS	Oral hygiene	
		M	F					
Subjects starting test								
Control	1	441	228	213	6.78	2.51	4.69	1.63
S.E.					.17	.08	.21	.04
Experimental	1	461	257	204	6.99	2.69	5.06	1.58
S.E.					.17	.08	.20	.03
Control	2	403	200	203	25.17	12.03	23.97	1.60
S.E.					.18	.27	.66	.03
Experimental	2	408	207	201	25.12	12.21	24.55	1.61
S.E.					.18	.28	.67	.03
Subjects completing 10 months								
Control	1	328	162	166	6.88	2.55	4.66	1.65
S.E.					.19	.09	.22	.05
Experimental	1	334	187	147	7.00	2.69	5.06	1.60
S.E.					.19	.10	.23	.04
Control	2	320	162	158	25.09	11.90	23.73	1.62
S.E.					.20	.30	.70	.04
Experimental	2	322	161	161	24.97	11.95	23.53	1.63
S.E.					.21	.30	.68	.04
Subjects completing 18 months								
Control	1	291	142	149	6.78	2.50	4.53	1.69
S.E.					.21	.10	.23	.05
Experimental	1	294	162	132	6.76	2.59	4.88	1.64
S.E.					.21	.10	.24	.05
Control	2	285	143	142	25.05	11.85	23.60	1.62
S.E.					.21	.32	.77	.04
Experimental	2	282	138	144	24.95	11.94	23.46	1.65
S.E.					.23	.32	.77	.04

*Group 1: grades 1 and 2.
Group 2: grade 7.

TABLE 2 Caries increments at 10 and 18 months, Edmonton stannous fluoride dentifrice study.

Group	10 months		18 months	
	ΔT	ΔS	ΔT	ΔS
Control 1	0.91	1.99	1.32	3.11
S.E.	.07	.13	.10	.18
Experimental 1	0.58	1.21	0.84	1.80
S.E.	.07	.12	.08	.15
Per cent reduction	36.3	39.2	36.4	42.1
Control 2	1.94	3.72	3.39	8.26
S.E.	.12	.23	.17	.35
Experimental 2	1.50	2.45	2.21	5.06
S.E.	.12	.22	.15	.30
Per cent reduction	22.7	34.1	34.8	38.7

were not included in the calculations. Teeth extracted for carious reasons were tabulated as three carious surfaces for posterior teeth and two carious surfaces for anterior teeth, but never fewer sur-

faces than indicated by previous examination.

An educational program in oral hygiene was initiated in the classrooms housing the subjects, closely simulating the dental health education program presently being developed in the city of Edmonton. Prior to the commencement of the study there was no specific dental health education program in the schools involved.

The education program was carried out by a dental hygienist under the direction of the principal investigator. It was directed primarily toward the teaching staff; but it included periodic classroom dental health education by the hygienist. The hygienist maintained teacher contact at least once each month. During the first period (December to June) two classroom talks and demonstrations were given by the hygienist in each of the 69 classrooms. During the second period

(September to June) three presentations were made.

The oral cleanliness of each subject, assessed at each clinical examination, was classified as good, fair or poor. Values assigned for tabulation purposes were good = 3, fair = 2, poor = 1.

Initially the study included 1,713 subjects: 902 in grades 1 and 2, and 811 in grade 7. The second examination (10 months) included only 1,304 subjects because of a change in school boundaries and a high absentee rate due to weather and sickness. The third examination (18 months) included 1,152 subjects.

DISCUSSION OF DATA

Table 1 shows the balance of the subjects at each examination. Dental ages, DMFT and DMFS scores are means. The high sample loss between the first to the second examination is evident, but the balance is not disturbed. The control and experimental group in both age groups show no significant differences in dental age, caries attack by tooth count or surface count, or any differences in oral hygiene.

Table 2 shows the mean caries increment of each of the two sub-groups in each age group. The apparent reduction in caries increment is based on the control of group data. It should be noted that the surface increment gives a more accurate estimate of the caries attack during this period. The reduction in surface increment in group 1 was 39.2 per cent and 42.1 per cent for the 10 and 18 month periods respectively. The reduction in increment by tooth count was 36.3 per cent and 34.4 per cent for the same periods. In group 2 the reduction in surface increment was 34.1 per cent and 38.7 per cent for the 10 and 18 month periods respectively. For the same periods the reduction in increment by tooth count was 22.7 per cent and 34.8 per cent. There appears to have been a slightly greater reduction in the experimental group in the second period than in the initial period. The reductions in caries increment in the two groups, by tooth count and surface count, are significant.

Table 3 is a percentage analysis of subjects who suffered no apparent caries attack in the 10 and 18 month periods. The difference between experimental and control groups indicates the actual percent-

TABLE 3 Percentage analysis of subjects who suffered no apparent caries attack during 10 and 18 month intervals, Edmonton stannous fluoride dentifrice study.

Group	DMFT		DMFS	
	10 months	18 months	10 months	18 months
Control 1	50.36	42.50	29.28	19.28
S.E.	2.99	2.95	2.72	2.36
Experimental 1	61.54	56.78	41.02	33.33
S.E.	2.94	3.00	2.98	2.85
Difference	11.18	14.28	11.74	14.05
S.E.	4.19	4.21	4.04	3.70
Critical ratio				
Group 1	2.69*	3.39*	2.91*	3.80*
Per cent increase	22.20	33.60	40.10	72.87
Control 2	33.90	14.04	20.89	8.22
S.E.	2.77	2.05	2.38	1.61
Experimental 2	36.93	28.92	32.06	16.03
S.E.	2.85	2.68	2.76	2.16
Difference	3.03	14.88	11.17	7.81
S.E.	3.97	3.37	3.64	2.69
Critical ratio				
Group 2	.76	4.42*	3.07*	2.90*
Per cent increase	8.94	105.98	53.47	95.01

*Indicates high significance.

TABLE 4 Analysis of incipient lesions in the younger age group during the first test period (0-10 months), Edmonton stannous fluoride dentifrice study.

Group	No. of lesions	% change to sound	% frank cavity	% no change
1st examination				
Experimental 1	882	23.13	37.98	38.89
Control 1	786	16.41	46.31	37.28

Group	No. of lesions	% carry over unchanged	% new lesions	% reversal to incipient
2nd examination				
Experimental 1	843	40.69	55.28	4.03
Control 1	885	33.11	63.62	3.28

P<0.01

age difference in the number of children with no caries increment in the two age groups. The per cent increase is based on the control group data and shows the increase in the number of children with no caries increment in the experimental group. The critical ratio indicates the significance of the difference in the two groups (figures followed by an asterisk indicating high significance). The differences between the control and experimental groups are self-evident. Again the DMFS data most closely represents the caries attack.

An analysis was done of the incipient lesions for the younger age group during the first test period from zero to 10 months (Table 4). This ill-defined area of clinical examination presents the greatest scope for examiner error. Incipient lesions, largely comprised of pits and fissures which do not exhibit frank caries, also include enamel etching on the smooth surfaces. This is where a therapeutic agent or change in regimen demonstrates

the first effect upon the caries attack rate. The history of each incipient lesion was followed to determine the result. Table 4 demonstrates actual lesion count rather than DMFT or DMFS scores. In the control group there appears to be a significant shift in the direction of progressive caries.

A brief comparison of this table with Tables 1, 2, 3 and 5 points up the great difficulty in obtaining accurate and precise caries increment data during relatively short time intervals.

Table 5 is a percentage analysis of oral hygiene of the entire sample of children. Oral hygiene is similar in all groups and is therefore combined into a single table. Children with poor oral hygiene showed little or no evidence of tooth brush use or diet control. Children with good oral hygiene had exceptionally clean mouths and no evidence of debris or staining. The

TABLE 5 Oral hygiene status of all children participating in the Edmonton stannous fluoride dentifrice study.

Per cent	Poor	Fair	Good
Initial examination	51.48	36.37	11.74
10 month examination	25.40	65.85	8.67
18 month examination	18.97	62.32	18.70

P<.01

TABLE 6 Analysis of means and per cent reductions based on DMFT and DMFS increments for 18 months given in Table 2.

Effect	Z		Sig.	
	ΔT	ΔS	ΔT	ΔS
Dentifrice	6.43	8.67	Yes	Yes
Age group	13.33	16.10	Yes	Yes
Dentifrice x age group	2.71	2.71	Yes	Yes

TABLE 7 Dentifrice x age group interaction, 18 months.

	ΔT Dentifrice				ΔS Dentifrice			
	Control	Crest	Diff.	% Red.	Control	Crest	Diff.	% Red.
Group 1	1.32	0.84	0.48	36.4	3.11	1.80	1.31	42.1
Group 2	3.39	2.21	1.18	34.8	8.26	5.06	3.20	38.7
	2.07	1.37			5.15	3.26		

TABLE 8 Significance contrasts between Crest, control and age groups, at 18 months.

Contrasts	Z		Sig. .05	
	ΔT	ΔS	ΔT	ΔT
Group 1 Crest vs. control	3.87	5.56	Yes	Yes
Group 2 Crest vs. control	5.21	6.88	Yes	Yes
Group 1 vs. group 2 (control)	10.77	12.98	Yes	Yes
Group 1 vs. group 2 (Crest)	7.95	9.63	Yes	Yes

entire dental health picture was influenced considerably by the education program, all groups being equally affected. The significant change in oral hygiene is self-evident in Table 5. How much of this change is due to education and how much is due to distribution of dentifrice and participation in the study is a matter of speculation.

The means and per cent reductions based on DMFT and DMFS increments for the basic study cells after 10 and 18 months are given in Table 2. The analysis for the 18 month data appears in Table 6. In this table the dentifrice $\times$ age group interaction is significant. This shows that the difference between Crest and control is not the same for both age groups; and that the difference between age groups is not the same for both dentifrices. This is demonstrated in Table 7.

To determine whether or not the difference between Crest and control groups is significant for each age group and whether or not the difference between age groups is significant for each dentifrice, the following contrasts are made (Table 8): group 1 Crest vs. control; group 2 Crest vs. control; group 1 vs.

group 2 (control); and group 1 vs. group 2 (Crest).

The significant interactions plus the four significant contrasts show that Crest significantly reduced caries in both age groups, but a greater difference was found in group 2; and that this group had a greater caries rate than group 1, but the difference between the rates of the two groups is less with Crest than with the control dentifrice.

However, Table 9 indicates that the per cent reductions based on DMFT and DMFS for the two age groups are similar. The differences between the per cent reductions of the two age groups for DMFT and DMFS are not statistically significant.

TABLE 9 Comparison of per cent reductions after 18 months.

	Per cent of reductions	
	DMFT	DMFS
Group 1	36.4	42.1
Group 2	34.8	38.7

The difference between the per cent reductions of the two age groups are not statistically significant.
Z = 0.12 for DMFT.
Z = 0.33 for DMFS.

SUMMARY AND CONCLUSIONS

A double blind study tested the efficacy of a stannous fluoride-calcium pyrophosphate dentifrice in 1,713 Edmonton school children of two specific age groups. A minimal dental health education program was concurrently undertaken, but all oral hygiene practices were left to the discretion of the individual. Grade 1 and 2 children experienced reductions in DMFS increment of 39.2 per cent and 42.1 per cent after 10 months and 18 months respectively. Grade 7 children experienced a reduction of 34.1 per cent and 38.7 per cent after the same intervals. These reductions are significant and must be attributed to the dentifrice used by the experimental groups.

The oral hygiene of the subjects improved significantly in the 18 month period. It is reasonable to assume that this improvement was affected by the overall program. Further studies are required to determine the relative effectiveness of the various components.

This study indicates that the effect of a stannous fluoride-calcium pyrophosphate dentifrice is not dependent upon age of the subjects. The effect exhibited appears to be proportional to the magnitude of the caries problem rather than being a constant effect independent of the caries problem.

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Are you going to the C.D.A. National Convention in Quebec this May? If so, don't miss seeing the Maison Montcalm, oldest house in Quebec City, built in 1674.

Survey-stimulated support for a dental health program

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A survey examination of 32,000 elementary school children provided the means of increasing community interest in dental health, and secured increased financial support for an educational and treatment program in all of 14 Winnipeg suburban municipalities.

L'examen de 32,000 écoliers de 1ière année a suscité de l'intérêt dans l'entourage pour la santé dentaire et a permis d'assurer plus de fonds pour un programme d'éducation et de traitements dans toutes les 14 municipalités de la banlieue de Winnipeg.

The Bureau of Dental Services of the Manitoba Department of Health divides the province into four health regions. Region No. 4 consists of Metropolitan Winnipeg exclusive of the city of Winnipeg proper. This region embraces three health units, and includes 14 municipalities, all located within a radius of 15 miles of the regional office. The population is 198,476, of whom 30,000 are children of elementary school age.

The region's 40,000 families have an average income of \$5,471. Thirty-four hundred, or nine per cent, of the families have incomes of less than \$3,000. In this region, a family income of less than \$4,000 is qualification for subsidized low-rental

housing, and an income of less than \$2,500 usually makes the family eligible for welfare assistance of one type or another.

There are 60 practising dentists in Region No. 4. But despite a dentist to population ratio of 1:2,600, some parts of the region have no dentist at all. Almost everywhere attendance at dentists' offices requires the use of public or private transportation. In much of the area, the apathy of the family heads regarding dental treatment of children's teeth is reinforced by the physical problem of bringing children to the dental office.

Prior to 1961 there was no organized dental public health activity in Region No. 4. Apart from private practitioners, treatment clinics operated in four of the 14 municipalities on a one-day-a-week basis throughout the school year. These clinics provided treatment to a limited number of children selected on the basis

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of means tests of various types. The funds to operate these clinics were obtained from various combinations of service clubs, municipal councils and school boards, and were administered under a variety of arrangements. Supplies were mainly provided from the Bureau of Dental Services of the provincial department of health.

SURVEY PLAN

Following the establishment of Region No. 4 and the appointment of a public health trained regional dental director in the fall of 1961, a plan was developed:

(a) To establish an organized dental health educational program directed at parents, teachers and children, covering as many of the elementary school grades throughout the area as available staff would permit;

(b) To gather data suitable for estimating (1) the proportion of children receiving treatment on an age and location basis; (2) the proportion of children requiring the various types of treatment by age and location; (3) the proportion of children with poor personal oral hygiene practices by age and location; and (4) the proportion of children apparently immune to dental caries by age and location, but without regard to residence history;

(c) In order to (1) increase community concern for children's dental health; (2) convert welfare-oriented treatment programs to educational treatment programs directed at grade 1 children and their parents and without a means test of any type; (3) extend treatment service into areas lacking it; (4) improve the availability of treatment service by utilizing mobile clinics operating on school premises, in addition to existing static clinics; and (5) increase financial support of local councils and school boards for the dental program.

The intent of the program was to educate and assist people to help themselves and to assume as far as possible the responsibility for the dental health of their children. Accordingly, treatment was gradually restricted to grade 1 children and their parents were required to be present. This re-oriented treatment pro-

gram permitted the dentist to impress the parent with the damage done to the child's dental health by past neglect; the long-range importance of maintaining a child's oral health; the backlog of accumulated treatment needs now being met; and the value of dietary controls and oral hygiene as preventive measures. Henceforth the cost of maintaining the child's dental health became the responsibility of the parents.

The staff for this program comprised a part-time regional dental director, a dental hygienist full-time during the school year, and a dental assistant full-time during the school year. Transportation was provided for the dental hygienist and her assistant. Essential dental equipment required by the hygienist for the screening examinations (mouth mirrors and explorers) and some portable dental equipment for the establishment of mobile dental clinics was also made available. A limited budget was allocated for health educational material and special forms.

Liaison visits prior to the establishment of the program secured the essential co-operation of medical health officers and, with their assistance, the approval of the various local authorities for the dental health program conducted in the schools.

Under this program each child received a screening type of dental examination during which 11 observations were recorded. Of these, five concerned information to be transmitted to the parent and referred to requirements for dental health. The other six concerned information for the use of the regional director. Each child examined received a card stating his dental treatment requirements in general terms. This card was taken home for the parents' information. A random sample of children in each age group was given, in addition, a special more detailed examination to provide information for the provincial dental health index being compiled by the provincial Bureau of Dental Services. (The sample size selected subsequently proved to be inadequate for useful comparisons within Region No. 4.) Following the screening examination each class received a 15 to 20 minute dental health lesson presented by the examining hygienist or by the regional dental director.

TABLE 1 Dental findings in 32,395 grade 1-4 school children examined in Manitoba Health Region No. 4 (Metropolitan Winnipeg) between January 1962 and February 1964.

	Grade 1	Grade 2	Grade 3	Grade 4
Number examined	6,944	10,681	10,250	4,520
Children available for examination	7,409	11,186	10,703	4,703
Index	Per Cent			
No defects*	38	33	29	27
Good teeth†	23	27	27	29
Caries‡	57	59	63	64
Extractions§	13	18	21	24
Premature deciduous tooth loss*	17	29	33	29
Neglected•	10	10	10	7
Space maintainer present*	less than 1	1	1	1
Orthodontic appliance present*	less than 1	less than 1	less than 1	less than 1
Caries immune*	16	11	7	4
Poor hygiene*	16	22	29	29
Malocclusion*	13	17	18	20

*Indices as defined in "The Evaluation of Canadian Dental Health" published by the Canadian Dental Association, July 1959.

†Children with caries treatment completed, though periodontal or orthodontic condition may be faulty. Does not include children classified as 'caries immune'.

‡Children with carious teeth.

§Children with carious teeth which are beyond possible restoration.

•Children with gross and unmet treatment requirements, including periodontal conditions.

Results of the screening examinations were recorded in triplicate — one set remaining at the school for the information of the school nurse; one set being made available, if required, to the medical health officer of the health unit concerned; and one set being retained by the regional dental director for use in compiling reports, particularly for presentation to parent-teacher associations and municipal and health unit authorities.

Grade 1 children examined by dentists in connection with the existing treatment clinics were excluded from examination by the hygienist. The time thus made available was used to extend her examinations to an equivalent number of grade 4 children.

RESULTS

It was estimated that 15,000 children could be examined in each school year. The program came into full operation in January 1962 and continued over the equivalent of 22 school term months until February 1964. The program was then concluded as sufficient data had been accumulated to achieve its major purpose. During this period 32,395 grade 1-4 chil-

dren were examined. Dental findings from this group are presented in Table 1.

Data from this survey were adequate to provide local authorities with an appreciation of the dental state of the children. The most useful information was that concerning the percentages of children with untreated caries, poor oral hygiene, requiring extractions, and neglected. Data based upon individual examinations of all the available children effectively impressed both parents and local officials.

Children's responses to classroom questioning revealed that they were well informed about the significance of oral cleanliness and dietary control. But they lacked motivation to apply in a consistent manner the knowledge they already possessed. Possibly the one to one ratio of parent to dentist used in this educational program may in the long run be the most practical and economical way of achieving significant improvement in the motivation of both parents and children.

All municipalities are now financing educational and treatment programs of the desired type. In each instance the initial financial support has been adequate to operate the program only on a demonstration scale. However, in no in-

stance has financial support been reduced once a program was started, and in most cases it has been increased after the first year of operation. There is clear evidence of an increased willingness to accept the program as a recognized part of the community's health services.

The original four static clinics have been continued, and mobile equipment has made it possible to locate additional temporary clinics in schools where it is relatively convenient for parents to attend when their child is being treated. This is a necessary condition for effective education and motivation of the parent.

It is, after all, the parent who is responsible for any permanent improvement in the child's dental health.

SUMMARY

A survey examination of 32,395 elementary school children conducted over a period of 22 school months in 14 Winnipeg suburban municipalities stimulated community interest in dental health and helped to secure increased financial support for an educational and treatment program in all 14 municipalities.

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Management of some medical emergencies in the dental office

S. I. Young, D.D.S., B.Sc.D. (Anaes.), Toronto, Ontario

Medical emergencies do not commonly occur in general dental practice, but increased use of anaesthetics and premedicating agents potentiates the likelihood of their occurrence. Some of the commoner medical emergencies—syncope, epileptic convulsions, angina pectoris, coronary thrombosis, acute heart failure, respiratory depression, respiratory obstruction, laryngospasm, bronchospasm, and allergic reactions—and their treatment are described. Two simple resuscitation methods—mouth-to-mouth respiration and artificial respiration using the Ambu-International Ruben-Resuscitator—are also described.

Les urgences médicales dans le cabinet du dentiste sont assez rares, mais l'emploi de plus en plus fréquent d'anesthésiques et de sédatifs est susceptible de les produire. Quelques-unes des urgences médicales les plus fréquentes sont les syncopes, les convulsions épileptiques, les angines de poitrine, les thromboses coronaires, les arrêts cardiaques, les dépressions respiratoires, les spasmes du larynx et des bronches et les réactions allergiques: l'auteur indique des traitements pour chacune d'elles. Il mentionne aussi deux méthodes de réanimation: la respiration bouche-à-bouche et le Ambu-International Ruben Resuscitator.

Medical emergencies do not commonly occur in general dental practice, but increased use of anaesthetics and premedicating agents potentiates the likelihood of their occurrence. The general practitioner should be able to handle any emergency in his office. The dentist who uses anaesthesia must be capable of controlling any situation that could arise due to his actions.

Some of the commoner medical emergencies and their management in the dental office are herewith described.

CENTRAL NERVOUS SYSTEM EMERGENCIES

Syncope.—One of the commonest emergencies in the dental office is sudden loss of consciousness due to cerebral anoxia or fainting. Simple syncope is character-

ized by a sudden feeling of weakness, giddiness, sweating, nausea, restlessness and finally unconsciousness.

Physically, the patient is pale, perspires, and the pulse is usually weak and thready.

Fainting is due to a diminution of cerebral blood flow in response to fatigue, disagreeable sights or odours, emotional disturbances and other states which precipitate vasomotor instability. The brain requires about 33 per cent of the blood supplied by the left ventricle.¹ In syncope, there is an increased blood supply to intramuscular blood vessels and a pooling in the splanchnic area at the expense of cerebral blood flow.

Immediately place the patient in a supine position, loosen all tight clothing in order to complement the circulation. Do not allow the patient to remain upright in the dental chair; otherwise serious complications such as convulsions or permanent brain damage may result. Normally, the patient regains consciousness in about 30 seconds, but should be kept in the supine position for at least ten or more minutes since dizziness and nausea may recur on recovery. Further treatment is rarely required.

If oxygen is available it should be used to prevent the post-syncope complications described above. Some dentists administer 100 per cent oxygen to apprehensive patients while injecting a local anaesthetic. Oxygen administration is effective only if adequate circulation to tissues is maintained. In shock, where circulation to vital areas is impaired, maintenance of an adequate blood flow to these areas is of paramount importance.

Epileptic Convulsions.—Epileptic seizures are characterized by violent, involuntary contractions of the musculature which are sometimes accompanied by loss of consciousness. Most epileptics willingly divulge their condition; some refrain due to social stigma. The alert dentist may suspect epilepsy in the patient whose tongue shows signs of scarring from previous epileptic attacks. Most epileptic attacks are self-limiting. They end when the patient falls to the floor and loses consciousness.

A well padded mouth blade which can be wedged between the teeth to prevent trauma should be available. Signs of respiratory obstruction (dyspnoea and cyanosis) suggest that the tongue may have fallen back and obstructed the airway. In that event grasp the tongue with a haemostat and pull it forward, thus freeing the airway. Contrary to widespread belief, the unconscious patient is very relaxed, and it is quite easy to insert an oropharyngeal tube into the mouth. The Brook Airway is quite adequate if a proper airway is not available. Oxygen should be administered if it is available.

Short appointments and a good night's rest for the patient are important pre-operative considerations for an epileptic patient. A known epileptic should also receive pre-operative medication with barbiturates. Phenobarbital (gr. $\frac{1}{2}$) will depress the central nervous system and reduce the incidence of attack. It is unwise to administer barbiturates during an epileptic seizure because the episode is usually over by the time that the drug takes effect. Thus the barbiturate will merely add to the depression.

CARDIAC EMERGENCIES

Most 'cardiac' patients are aware of their respective conditions. With normal operative dental treatment there is very little danger of precipitating a heart attack of any kind provided certain simple preventive steps are taken. We must be extremely gentle with this type of patient. As with the epileptic, a good night's rest and short appointments are desirable. If available, it is wise to have the patient inhale a 100 per cent concentration of oxygen while the local anaesthetic is being administered. This reinforces the body physiologically, and may also give the patient a sense of security and well-being since special measures are being taken to protect him.

Some typical diagnostic signs of heart disorders are dyspnoea on mild exertion, palpitations, chest pains, and oedema of the ankles.

Angina Pectoris.—This common heart disorder symptom is caused by a diminu-

tion of blood flow to the heart muscle itself. Patients with atherosclerosis have a higher incidence of angina. An attack of angina may be precipitated by fear and apprehension, muscular exertion, and sometimes by overeating. The patient may complain of a crushing or viselike sensation in the area of the sternum. Pain may radiate to the left shoulder and down the left arm to the fingers. On rare occasions pain may cross over to the right shoulder and arm, or even to the mandible.

Place the patient in a supine position to complement circulation, and loosen tight clothing to prevent restriction of circulation. Mild vasodilatory drugs such as vapours of amyl nitrite (0.3ml.) are usually effective. Oxygen should be administered if available. Recovery is quite rapid with this simple treatment. If pain persists, narcotics such as morphine (gr. $\frac{1}{4}$) or meperidine [Demerol] (gr. $1\frac{1}{2}$) can be administered intramuscularly. Coronary thrombosis should be suspected if pain persists.

Acute Coronary Thrombosis. — Angina pectoris is symptomatic of diminished circulation to certain segments of the myocardium. Coronary thrombosis is a complete block of the blood supply to a segment of the heart wall. Symptomatically, coronary thrombosis resembles angina pectoris. However, the pain is usually less severe, may begin while the patient is at rest, and usually lasts much longer. Some of the typical signs of shock, such as a fall in blood pressure, are present. The patient may be dyspnoeic, cyanotic, and nauseated. Mild vasodilatory drugs are of no avail as the circulation to the affected area is already blocked. Treatment consists of administering narcotics such as morphine or meperidine to alleviate pain and thus reduce fear and apprehension. Oxygen counteracts the dyspnoea and cyanosis. Again, place the patient in a supine position and keep him warm.

Acute Heart Failure.—Acute heart failure or asystole may occur as a result of angina pectoris, coronary thrombosis, or myocardial infarction, but the primary cause in most emergency situations is tis-

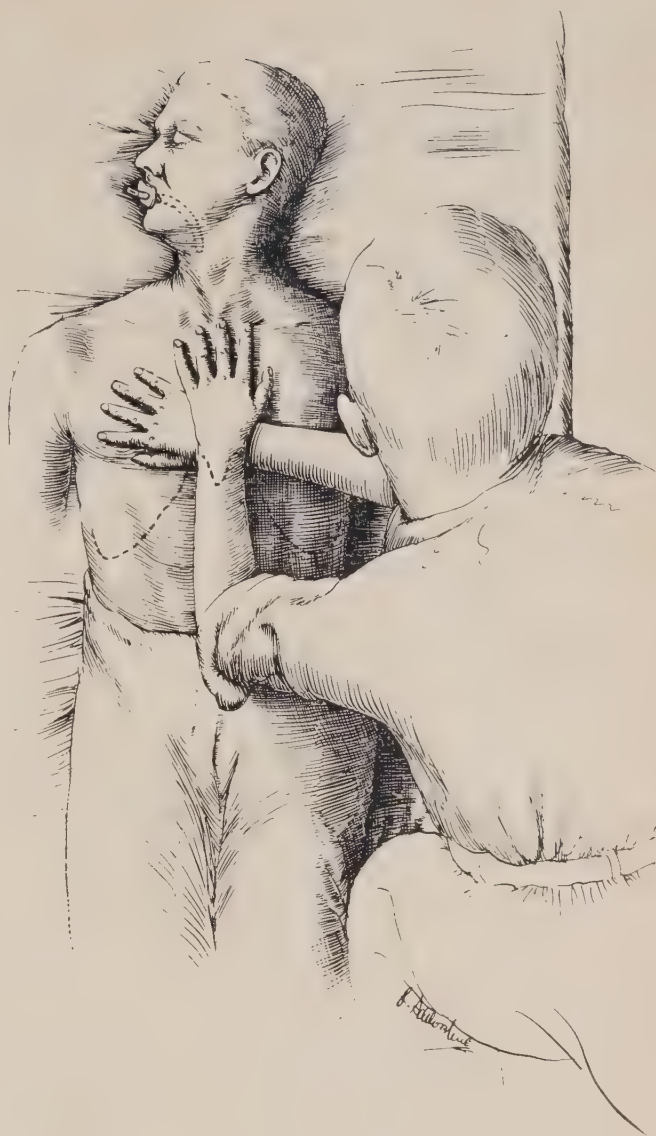


FIGURE 1 Closed chest massage. Position of hands during massage of adult. (Kouwenhoven, W.B., J.A.M.A. 173:1064, 1960.)

sue hypoxia. When tissue hypoxia is present, the tissues themselves do not receive enough oxygen to carry out normal cell metabolism. Acute heart failure is usually preceded by gasping type of breathing, cyanosis, arrhythmias, and a fall in blood pressure. The pupils begin to dilate widely and the radial pulse may be thready, weak, or absent entirely. Quick action is mandatory if this situation occurs.

There are two considerations in the treatment of acute heart failure. First, it is necessary to restore heart action to restore the circulation; second, we must supply this regained circulation with oxygen in order to combat tissue hypoxia. Three to five minutes anoxia is sufficient to cause permanent brain damage and possible renal failure.

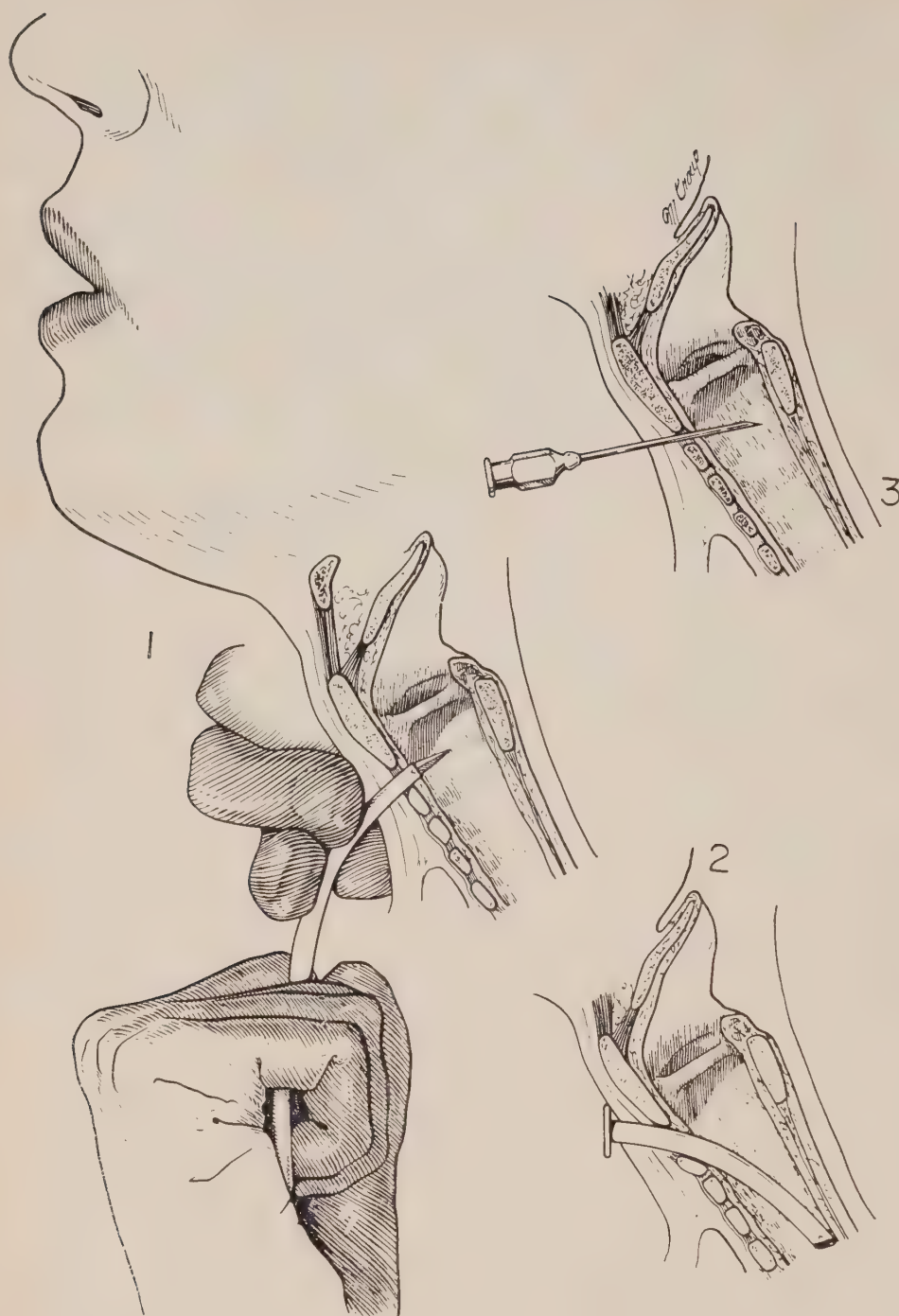


FIGURE 2 Cricothyrotomy for emergency tracheostomy. (1) Insertion of cricothyrotomy trochar. (2) Cricothyrotomy tube in place. (3) 13 gauge needle inserted for minimal emergency airway. (After Monheim, *General anesthesia in dental practice*, ed. 2, Mosby.)

Kouwenhoven et al² have devised a very effective treatment for closed chest massage which has had amazingly good results. No complex equipment is necessary to carry out this procedure. The heart is limited anteriorly and posteriorly by the sternum and vertebral column respectively and laterally by the pericardium. Since the unconscious patient has an unusually relaxed musculature, the thoracic cage is easily moved. Place the patient gently on a hard surface or on the floor and apply the hands as shown in the following diagram. Apply enough

vertical pressure to move the rib cage 3 or 4 cm. at the rate of about 60 movements per minute. With small children only one hand is necessary. Too much pressure may result in fractured ribs or a pierced liver. At the same time an assistant should augment the respirations (as subsequently described under resuscitation). If no assistance is available, the doctor must pause every 30 seconds or so and apply artificial respiration himself, using the Brook Airway or mouth-to-mouth respiration. This treatment is continued until the pupils begin to contract

and the patient begins to breathe on his own. The pulse should be monitored at frequent intervals. Massage is discontinued when pupillary size, pulse volume, pulse rate and pulse rhythm are restored to normal. Oxygen therapy continues until the patient is conscious and in complete harmony with his surroundings. Thereafter the patient is sent to hospital for observation and his physician is advised of the incident.

RESPIRATORY EMERGENCIES

Respiratory arrest or depression may occur due to central effects of drugs, anaphylactoid reactions, spasms, or foreign bodies blocking the airway. Signs of respiratory complications are dyspnoea and cyanosis.

Respiratory Depression. — Premedication drugs have a definite place in dentistry, but should be used with extreme caution. The oral route is always less dangerous than the parenteral route. No matter how the drug is administered, it must reach the blood stream in order to be effective. To cause a complication it must reach the circulatory system in concentrations which are sufficient to exert a depressant effect on the higher centres. When premedication drugs are used, there is always the danger of depressing respiration. Fortunately, respiratory depression almost invariably precedes circulatory depression. Thus by controlling respiratory depression we can prevent any real danger to the patient.

Barbiturates in overdose depress respiration, and no antidote or antagonist is available at present to combat this effect. There is also a danger of laryngospasm with the use of barbiturates. The treatment of choice with barbiturate intoxication is to augment respirations until the effect of the overdose subsides.

I do not advocate the use of nikethamide (Coramine) and other so-called respiratory stimulants because the patient will probably be more depressed when the effect of these drugs wears off. If narcotics are used for premedication, appropriate antagonists should be readily available. N-allylnormorphine [Nalline

Hydrochloride] (5-10 mg.) is an antagonist to the opiates such as morphine, but does not work well with the opioids or synthetic narcotics such as meperidine. Levallorphan tartrate [Lorfan] (0.5—1 mg.)³ is the drug of choice to reverse any synthetic narcotic-induced depression. If possible these antagonists should be administered intravenously. Only enough antagonist should be given to counteract the primary respiratory depression or it too may cause further respiratory complications. Again, oxygen and a proper apparatus for its administration should be available.

Obstructions.—If a foreign body is present, its removal will usually be sufficient treatment. If this is impossible and the patient shows signs of extreme hypoxia, cricothyrotomy may be necessary. Two methods are illustrated in Figure 2.⁴ Figure 2(1) shows the simplest type of emergency airway. If the needle is inserted in the midline little or no haemorrhage occurs. Figures 2(2) and 2(3) show a cricothyrotomy trochar in place.

Laryngospasm. — A laryngospasm is a complete or partial closure of the true or false vocal cords preventing adequate oxygen from reaching the lungs to provide for a proper exchange of gases. It may be caused or initiated by salivation, nervousness, allergic reactions and drugs such as barbiturates. The patient gasps, and respiratory muscles strain in an attempt to obtain more oxygen. The patient may become flushed, then cyanotic, and finally loses consciousness.

Oxygen administered under pressure will suffice for the majority of laryngospasms. The facemask must be tightly applied to the patient's face. If this does not break the spasm and if muscle relaxants such as succinylcholine (10-40 mg.) are not available the only other choice is a cricothyrotomy. (It should be noted that succinylcholine may cause respiratory paralysis, particularly when used in large doses.)

Bronchospasm.—A true bronchospasm is manifested by coughing, wheezing, dyspnoea and cyanosis. The patient uses his stomach musculature to the fullest in an

attempt to oxygenate the lungs. One causative factor is allergic reaction. Small continuous dosages of adrenalin (0.3-0.5 ml. of a 1:1,000 solution) will sometimes be effective. If this does not help, aminophylline (gr. 7.5 in 10 ml. aqueous solution) can be injected intravenously. Aminophylline should be injected slowly as hypotension may be a serious side effect of rapid injection. Injection of aminophylline may have to be repeated at 20 minute intervals if the patient does not completely recover. Again, oxygen should be administered to assist the patient to full recovery.

ANAPHYLAXIS AND ALLERGY

Anaphylactic shock results from reaction of a specific antigen with certain antibodies which are attached to fixed tissue cells. The term shock emphasizes that the reaction is fast or explosive in nature. It always is accompanied by a release of histamine. When histamine is released, responses may occur at the primary site of release such as smooth muscle in the gut or bronchioles, or the histamine may travel in the blood to skin, and mucous membrane.

Some persons are hypersensitive to certain proteins which may be injected, ingested or inhaled. The response produced is termed an allergic reaction. Hay fever, bronchial asthma, urticaria, eczema and certain gastrointestinal disturbances are some of the forms that allergic reactions can take. Accidental intravenous injection of a protein to which a patient is sensitized may result in severe laryngospasm, or bronchospasm, and unless relieved rapidly may prove fatal.

Proper pre-operative evaluation of the patient often discloses the existence of specific hypersensitivities and thus reduces the likelihood of precipitating an allergic reaction.

All drugs should be administered with extreme care and caution. The parenteral route is much more reliable from a therapeutic point of view, but the oral route is much safer. When drugs are given parenterally, they should be administered slowly. If any type of untoward reaction

occurs, such as urticaria, flushing, administration should be discontinued immediately. Adrenalin (0.3—1 ml. of 1:1,000) should be administered at the site of injection. The vasopressor action of adrenalin slows down the advance of the sensitizing drug. Next, inject an antihistamine such as diphenhydramine [Benadryl] (25 mg.) intravenously if possible. If intravenous injection is impractical, an intramuscular injection will suffice. The patient should be observed to determine the effect of this treatment. It may be necessary to repeat both the adrenalin and diphenhydramine injections.

If there are signs of laryngospasm and/or bronchospasm appropriate treatment should be initiated. The patient should subsequently be advised of his allergy and warned not to expose himself to the sensitizing drug in future.

RESUSCITATION

Proper resuscitative measures will usually keep alive the unconscious patient or the patient suffering respiratory depression and allow him to regain consciousness. Only when no action is taken will a depressed patient lapse into complete respiratory and circulatory collapse.

Mouth-to-mouth breathing is a simple and very effective form of artificial respiration. Normally inspired air contains about 20 per cent oxygen. Some 15 per cent oxygen remains in the exhaled air.⁵ This is enough to keep a non-breathing patient alive. The oxygen volume is further enhanced because the dentist breathes about twice as hard during mouth-to-mouth respiration. Mouth-to-mouth respiration is only as good as the airway that is available. Place the patient in a supine position and loosen tight clothing. Make sure that the mandible and tongue are held well forward. A Brook Airway or a Johnson and Johnson Resuscitube will keep the tongue and mandible forward. If neither of these are available an oropharyngeal tube may be used instead. If no artificial airway is available, direct mouth-to-mouth respiration should be immediately initiated. Stand or kneel at a 90° angle to the patient, support the chin forward and up-

ward with the right hand and close the nostrils with the left hand. A rate of 16 to 20 respirations per minute is sufficient to give an adequate gas exchange. The dentist can observe the effectiveness of each of his breaths by watching the patient's chest rise and fall.

Mouth-to-mouth respiration prevents tissue hypoxia provided normal circulation is intact. Nevertheless, a dentist should have proper resuscitation equipment available. An excellent apparatus for artificial respiration is the Ambu-International Ruben-Resuscitator. This apparatus consists of a facemask and an elastic bag to which positive pressure can be applied. The technique of administration is very simple. Place the patient in a supine position and hold the mask to the face with the thumb and forefinger of the left hand, while the other fingers of the left hand support the chin upward and forward. The right hand is then free to exert positive pressure on the elastic bag. There is also an attachment for oxygen. If the oxygen is available in the dental office, 100 per cent oxygen can be forced into the lungs instead of 20 per cent oxygen present in the atmosphere. Every few minutes artificial resuscitation should be stopped in order to determine whether the patient will initiate an inspiration of his own. If the patient does initiate respirations, then carefully apply positive pressure to the bag only when he has first initiated the inspiratory phase.

This allows the patient to control the rate of respirations while the dentist continues to control the depth. Artificial respiration is continued until the patient regains consciousness and complete control of his faculties.

SUMMARY

Medical emergencies do not commonly occur in general dental practice, but increased use of anaesthetics and premedicating agents potentiates the likelihood of their occurrence. Some of the commoner medical emergencies — syncope, epileptic convulsions, angina pectoris, coronary thrombosis, acute heart failure, respiratory depression, respiratory obstruction, laryngospasm, bronchospasm, and allergic reactions — and their treatment are described. Two simple resuscitation methods — mouth-to-mouth respiration and artificial respiration using the Ambu-International Ruben-Resuscitator — are also described.

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L'IMPORTANCE DES REDRESSEMENTS MINEURS DES DENTS

en tant que facteurs indispensables au succès des travaux de restauration

par René Bourcier, D.D.S., Montréal, P. Qué.

La profession dentaire, malgré son intérêt de plus en plus marqué dans le domaine des redressements mineurs des dents, ne les met pas suffisamment en pratique. Elle les limite trop souvent aux enfants et aux adolescents. Il faut que le dentiste fasse profiter les adultes de ces services, quand il s'agit d'effectuer chez eux des restaurations en prothèse partielle fixe ou en prothèse partielle; il en est de même pour certains traitements de périodontie.

Although dentists are becoming increasingly interested in minor tooth movement, few undertake this treatment. Tooth movement is almost exclusively limited to children and adolescents. This philosophy must be altered. More emphasis should be given to this form of treatment in adults, particularly in patients requiring extensive partial denture prosthesis, fixed bridges or periodontal treatment.

La dentisterie moderne, toujours consciente du rôle important qu'elle se doit de jouer chez une population qui attend beaucoup d'elle, a fait, depuis quelques années, un pas de géant. Jour après jour, elle n'a cessé de veiller à la santé bucco-dentaire et *ipso facto* à la santé générale des individus. Mettre à la disposition des patients des services aussi complets qu'efficaces: voilà sa raison d'être.

C'est pourquoi, elle tente présentement d'inculquer aux omnipraticiens des notions qui leur permettent de réaliser l'importance du déplacement mineur des dents comme facteur indispensable au succès des travaux de restauration. Elle s'efforce ainsi de mettre en relief le rapport très étroit qui existe d'une part, entre

les petits mouvements des dents et d'autre part, entre des restaurations permanentes plus adéquates dans les domaines de la dentisterie opératoire, de la prothèse partielle fixe et amovible, de la périodontie et de l'orthodontie.

On sait jusqu'à quel point un plan de traitement peut changer, si une dent en malposition axiale ou ayant subi une extrusion, si une occlusion croisée ou trop fermée, etc. est remise à peu de frais en position fonctionnelle. Le praticien évitera parfois d'opter en faveur d'une solution de compromis s'il peut redonner à certaines dents leur position normale.

Certains membres de la profession ont apporté une contribution inestimable dans ce champ de la dentisterie. Hirschfeld, par exemple, a consacré un volume entier au remplacement des dents par des méthodes simples. D'autres ont insisté

Travail qui a valu à son auteur le deuxième prix au Concours 1964 du Mémorial de Guerre de l'Association dentaire canadienne.

sur la possibilité d'effectuer ces traitements aussi bien chez l'adulte que chez l'enfant.

Cette forme de thérapie peut donc jouer un rôle primordial dans certains plans de traitement.

Neustadt¹ en fait d'ailleurs mention: "... on ne peut parler de bonne dentisterie sans faire appel aux déplacements des dents tels que le remplacement des dents servant d'attaches en prothèse partielle fixe, la correction d'une occlusion traumatique, la fermeture des espaces, etc. ..."

REVUE DE LA LITTÉRATURE

Une rétrospective de la littérature nous permet de prendre connaissance des diverses opinions émises jusqu'à date, même si, dans l'ensemble, les auteurs émettent sensiblement la même conclusion. Un bref historique concernant les déplacements mineurs des dents nous permet d'en comprendre plus facilement l'évolution.

Il ne faut pas croire, malgré l'insistance des auteurs modernes sur ce genre de traitement, que le dentiste contemporain vient de faire une découverte! Platzer² nous rappelle qu'en 1879, Kingsley employait la plaque temporaire (bite plate) et que Hawley, en 1919, a fait connaître au monde dentaire l'appareil de rétention qui porte aujourd'hui son nom.

Quelques trente ans auparavant, des auteurs tels que Neustadt³ mentionnaient qu'il fallait corriger les malpositions dentaires pour prévenir des troubles périodentaires. Et depuis, l'occlusion normale et la position correcte de chacune des dents de l'arcade ont pris une telle importance dans le diagnostic et le plan de traitement que la littérature regorge d'articles sur la correction des petites malpositions dentaires.

TERMINOLOGIE

Il faut comprendre, quand on parle de redressements mineurs des dents, ce qu'ils sont, quelles sont leurs limites et quels sont les principes sur lesquels doit s'appuyer l'omnipraticien pour entreprendre ces traitements.

Goldman et Burket⁴ établissent une dif-

férence très nette entre les mouvements mineurs et les mouvements orthodontiques des dents. Voici ce qu'ils disent à ce sujet: "Une malrelation des maxillaires ou de larges segments de la denture, qui nécessite un mouvement en masse, relève du domaine de l'orthodontie. Une malrelation d'une ou de quelques dents, qui ne nécessite qu'un mouvement de bascule, fait partie des déplacements mineurs des dents."

Hirschfeld⁵ abonde également dans ce sens, mais explique davantage le terme 'mineur' qui peut porter à confusion. Selon lui, le mouvement mineur ne réfère pas à la simplicité du mouvement, mais bien à la courte distance qu'ont à parcourir les dents et au nombre restreint de dents à bouger. De plus, Hirschfeld⁶ dans un article récent, écrit que les déplacements mineurs des dents sont indiqués quand il s'agit de malpositions causées par des facteurs que se sont présentés après l'éruption des dents (dents non remplacées après l'extraction, maladies périodentaires ou mauvaises habitudes). Les traitements qui s'adressent à l'orthodontie, au contraire, sont indiqués si les malocclusions sont causées par des facteurs héréditaires ou de croissance.

Sorrin⁷ pour sa part, adopte une classification un peu plus générale. Voici comment il classifie les types de mouvements: "On peut observer deux types fondamentaux de mouvements des dents: (1) endogène, celui qui résulte des forces à l'intérieur de la bouche; (2) exogène, celui qui résulte des forces produites par un mécanisme externe ou un appareil fixé aux dents."

On peut alors se demander si les mouvements mineurs et orthodontiques des dents tels qu'expliqués par Goldman et Burket⁴ se situent tous deux dans la classification des mouvements exogènes ou si l'on pourrait insérer les déplacements mineurs des dents dans la classification des mouvements et endogènes et exogènes. Cette dernière option semble plus raisonnable, puisque les déplacements mineurs peuvent être exécutés avec ou sans force mécanique externe.

Mentionnons que, par mouvement endogène, Sorrin⁷ entend un mouvement réalisé par l'élimination des interférences

permettant ainsi un remplacement des dents dans leur position initiale. C'est ce que Ross⁸ appelle le 'reactive tooth positioning.'

PRINCIPES DU DÉPLACEMENT MINEUR DES DENTS

Certains principes essentiellement importants doivent guider le praticien qui veut entreprendre de traiter des malpositions mineures. Hirschfeld⁵ divise en six grands points les principes guidant les redressements mineurs. Les voici:

1. Il faut d'abord l'espace suffisant entre les dents adjacentes pour permettre le remplacement des dents en malposition.

2. On doit pouvoir éliminer toute interférence qui empêcherait le mouvement de redressement.

3. L'inclinaison axiale de la dent doit permettre un mouvement de bascule qui favorisera la relation de cette dent avec l'os de support et les forces d'occlusion.

4. Il importe de corriger tous les facteurs étiologiques pouvant déplacer les dents à moins d'envisager une rétention permanente fixe.

5. L'état périodentaire et périapical de la dent doit permettre un bon pronostic.

6. Les facteurs systémiques ou psychologiques ne doivent pas mettre en péril le succès du traitement.

Rothenberg et Shapiro⁹ ajoutent: qu'il importe d'avoir un bon ancrage pour ne pas déplacer les dents en position normale. Scopp et Bien¹⁰ insistent en plus sur le fait, qu'une fois les dents redressées, il est nécessaire de les maintenir dans cette position pour un certain temps. Enfin, ils soulignent que les pressions doivent demeurer dans les limites physiologiques.

DISCUSSION DU SUJET

Voici quelques exemples de cas qui illustrent l'avantage d'entreprendre, avant la restauration définitive, des traitements pour replacer les dents dans leur site fonctionnel.

Diastème entre les incisives centrales supérieures.—Un diastème entre les dents pêche contre l'esthétique et cons-

titue une invitation à la gingivite et ses conséquences. Il faut d'abord trouver la cause de cette anomalie. Il peut être question d'un facteur héréditaire ou de croissance ou encore de forces d'occlusion excessives et, parfois aussi, de mauvaises habitudes qui ont basculé labialement les antérieures.

Si la position axiale des dents est normale, il suffit d'un mouvement mésial des deux centrales l'une vers l'autre. Après, s'il y a lieu, des couronnes peuvent être confectionnées. Sans ce déplacement des dents, ces couronnes auraient été vraiment trop grosses; elles auraient nui à l'esthétique et favorisé, au collet, la rétention alimentaire et des inflammations périodentaires.

Shapiro,¹¹ dans un cas semblable, préconise l'emploi de ligatures de soie qui se contractent à l'humidité. Hirschfeld⁶ utilise différentes techniques, mais il se prononce en faveur de bandes élastiques taillées dans une digue de caoutchouc (Figure 1): "L'emploi de bandes élastiques taillées dans une digue de caoutchouc est la méthode la plus simple pour rapprocher les dents dans une direction mésio-distale."

Goldstein¹² préconise l'emploi de fils élastiques (caoutchouc recouvert de nylon) qui, dit-il, donne d'excellents résultats.

Position oblique de la deuxième molaire inférieure.—Un autre cas rencontré fréquemment est celui de la bascule mésiale de la deuxième molaire inférieure, à cause de la disparition de la première molaire. Malheureusement, trop de praticiens s'empressent de préparer des piles pour recevoir un pont fixe sans se soucier des forces traumatiques obliques que va créer ce pont permanent. Or, graduellement, ces forces traumatiques occasionnent une destruction osseuse suivie d'une mobilité des dents piles.

Il faut se rappeler qu'un pont, pour rendre un service durable et non pas seulement pour combler un vide, doit reposer sur des dents qui sont en bonne position axiale. Ce cas-type illustre l'avantage de pouvoir redresser la dent à l'aide d'appareillage fort simple.

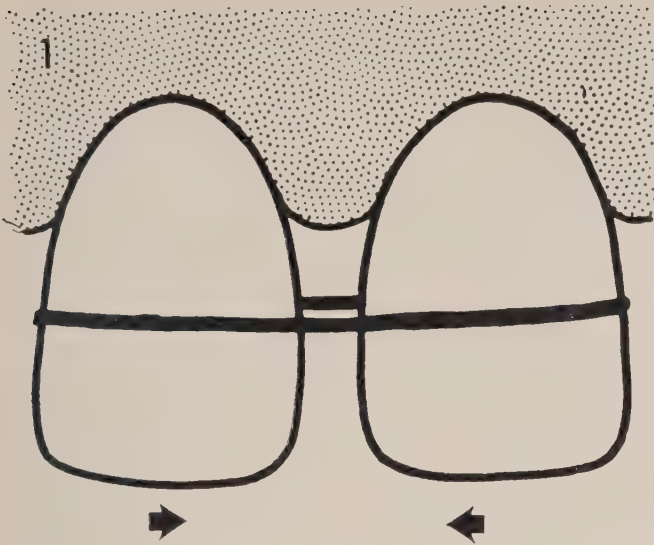


FIGURE 1 Les bandes élastiques, placées au tiers moyen des deux incisives centrales, font bouger les dents vers la ligne médiane. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby; et Hirschfeld et Jay, *J.A.D.A.* 50:282, 1955.)

Plusieurs moyens s'offrent au praticien qui doit corriger une telle migration des dents. Hirschfeld⁵ propose comme méthode de choix l'usage d'un appareil en acrylique avec ressort qui distale la deuxième molaire (Figure 2). Parfois, il remplace le ressort par ce qu'il appelle le 'split-block,' c'est-à-dire une plaque d'acrylique scindée en deux portions, l'une servant d'ancrage et l'autre activée de façon à distaler la molaire par l'entremise d'un fil métallique activé qui unit les deux portions d'acrylique (Figure 3).

Dans le même chapitre, il fait l'éloge d'une méthode employée par Moyers et qui consiste en deux bagues cimentées sur deux dents ayant subi une migration. Sur ces bagues sont soudés deux tubes buccaux à travers lesquels passe un fil assez rigide entouré d'un ressort spiralé activé de façon à repousser les deux dents en cause dans la position désirée (Figure 4). Toutefois, à son avis, le mouvement de bascule obtenu par l'appareil en acrylique avec ressort est supérieur.

Shapiro¹¹ semble obtenir un résultat satisfaisant avec l'emploi d'un tube de caoutchouc exerçant des mouvements mésial et distal des dents postérieures. Ce tube serait inséré avec force entre les deux dents qui ont migré l'une vers l'autre et permettrait à ces mêmes dents de refaire en sens inverse le trajet qu'elles ont effectué (Figure 5). Le patient quitte

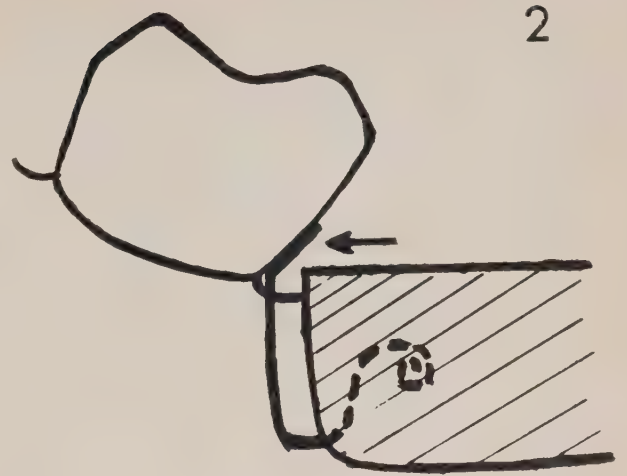


FIGURE 2 L'ouverture du ressort crée une pression au mésial de la deuxième molaire et la fait basculer distalement. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby.)

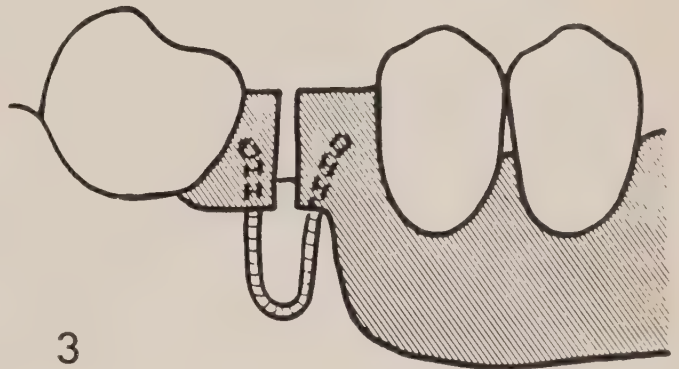


FIGURE 3 L'appareil activé exécute le mouvement de bascule de la deuxième molaire. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby.)

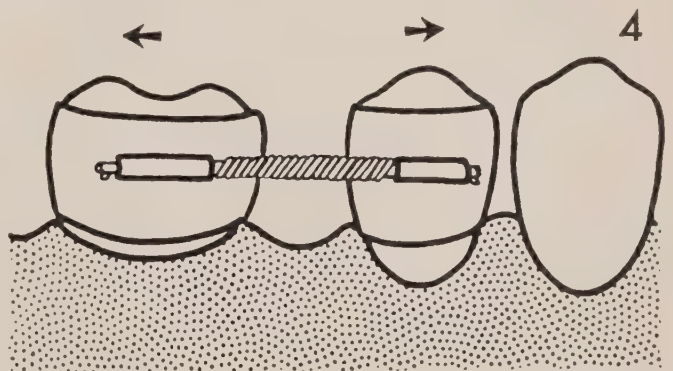


FIGURE 4 Deux bagues avec fil rigide et ressort spiralé peuvent bouger les dents qui ont migré. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby.)

le bureau avec, en poche, une série de tubes tous plus grands l'un que l'autre qu'il remplace par un plus grand à

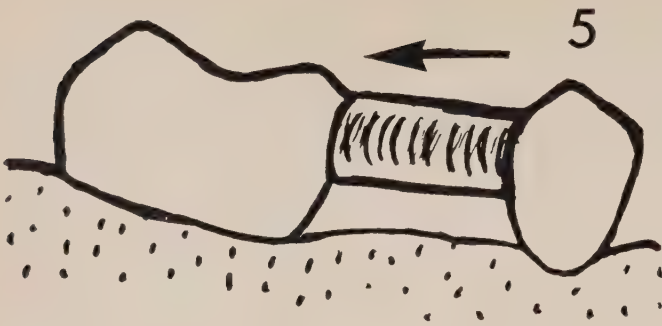


FIGURE 5 Un tube de caoutchouc que le patient place lui-même accomplit le mouvement de redressement des dents en malposition.

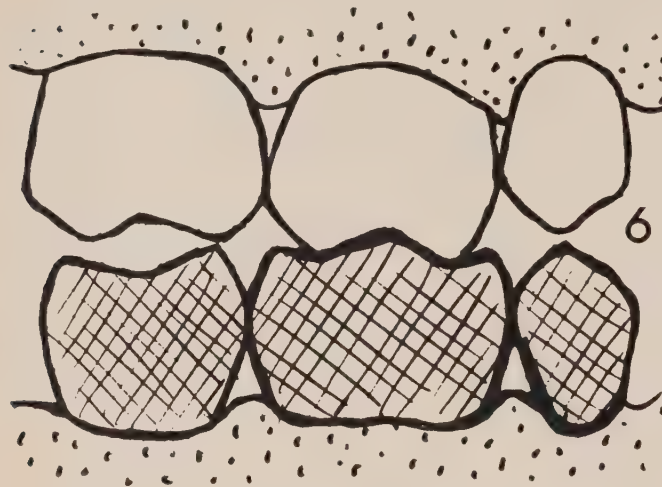


FIGURE 6 Le pont temporaire en acrylique, placé en suroccclusion, réalise le mouvement d'intrusion de la molaire supérieure.

mesure que s'effectue le mouvement de redressement. La rétention de ces tubes peut être difficile si les muscles de la langue et de la joue ont une activité musculaire plutôt accentuée.

Extrusion de la première molaire supérieure. — Enfin, il n'est pas rare que, dans le cas d'absence de la première molaire inférieure, la molaire antagoniste subisse une extrusion. Cette situation crée un second problème. Quelle serait l'attitude de deux praticiens, le premier du type conservateur, le deuxième du type interventionniste? Ce dernier, pour rétablir l'occlusion par un pont fixe qu'il veut placer sur l'arcade inférieure; choisit de meuler la molaire en extrusion. Si l'extrusion est assez prononcée, il devra se rendre jusqu'à la dentine et de ce fait couronner la dent, mais là encore, le risque d'atteindre la pulpe est grand.

Pour le praticien conservateur, c'est là

une occasion toute indiquée pour accomplir un redressement dentaire mineur. Il peut utiliser au maxillaire inférieur un pont temporaire en acrylique articulé en suroccclusion avec la molaire supérieure. Ainsi, le seul contact se fait sur ce pont temporaire favorisant ainsi, par l'action des forces de mastication et de déglutition, un mouvement intrusif de la molaire supérieure (Figure 6). Il suffit, par la suite, d'ajouter sur ce pont temporaire les couches d'acrylique nécessaires jusqu'à ce qu'un niveau acceptable de la dent soit obtenu.

Cette méthode est basée sur celle qu'emploie Higley¹³ avec la seule différence qu'il nous rapporte un cas d'extrusion des prémolaires supérieures, avec absence des prémolaires inférieures qui doivent être remplacées par une prothèse partielle amovible. Il se sert d'une pièce amovible temporaire pour obtenir l'intrusion des prémolaires supérieures, après quoi il remplace la pièce temporaire par un appareil permanent.

Enchevêtrement des dents antéro-inférieures. — Dans quel optique peut-on envisager un entassement des dents antérieures du bas? Il va sans dire qu'un tel alignement des dents ne peut être que très défavorable au patient: d'abord au point de vue esthétique et surtout au point de vue fonctionnel.

Cette superposition des incisives favorise la rétention alimentaire et l'inflammation des papilles interdentaires qui se trouvent comprimées en position anormale. Souvent, une occlusion traumatique vient aggraver la situation. Il en résulte, dans la majorité des cas, une destruction osseuse verticale très marquée, suivie d'une mobilité et enfin de la perte des dents.

Cette situation dramatique nécessite une correction immédiate. Par contre, il est très important de ne pas entreprendre de traitements de redressement s'il existe une inflammation des tissus périodontaires. Toute force additionnelle ne servirait qu'à aggraver cette inflammation.

Or, la première condition du succès des redressements mineurs des dents exige qu'il y ait un espace suffisant entre les dents adjacentes pour permettre le re-

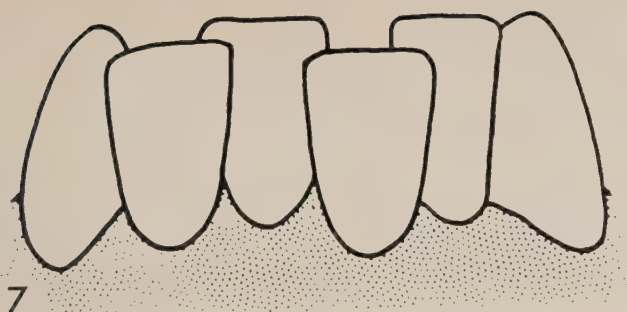


FIGURE 7 Cas où il faut extraire une dent avant de corriger les malpositions. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby.)

placement des dents en malposition. Goldstein¹² propose en premier lieu d'extraire une dent (celle en plus mauvaise posture) pour ensuite fermer l'espace à l'aide de ligatures. Le praticien a le choix entre des ligatures en acier inoxydable et d'autres en soie qui se contractent à l'humidité ou encore une combinaison des deux, les premières pouvant servir d'ancrage.

L'extraction d'une dent, comme le propose Goldstein¹² est une méthode acceptable lorsque l'encombrement est très prononcé (Figure 7). Par contre, il existe des cas où il est possible d'éviter cette mutilation. Si l'entassement est très léger, il suffit, comme le dit Hirschfeld,⁵ de réduire le diamètre mésio-distal des dents à l'aide de bandes ou disques abrasifs et de polir les surfaces ainsi meulées (Figure 8). D'après Hudson,¹⁴ ces dents ne deviennent pas susceptibles à la carie si l'on prend soin de ne pas meuler plus que la moitié de la couche d'émail.

Mais Hirschfeld⁶ préfère la plaque d'acrylique avec fils redresseurs aux ligatures proposées par Goldstein.¹² Selon lui, les ligatures ne permettent pas un ancrage suffisant, tandis que la plaque d'acrylique peut distribuer plus facilement les forces réciproques sur plusieurs dents et sur les tissus mous.

Le bon alignement obtenu par redressement mineur permet la construction de couronnes jumelées si les dents, par la destruction de l'os, sont mobiles. Le problème de rétention en position stable des dents ainsi déplacées de même que le pronostic périodentaire de ces mêmes dents se trouvent réglés par les couronnes jumelées. Un autre grand avantage est celui que reconnaît Hirsch-

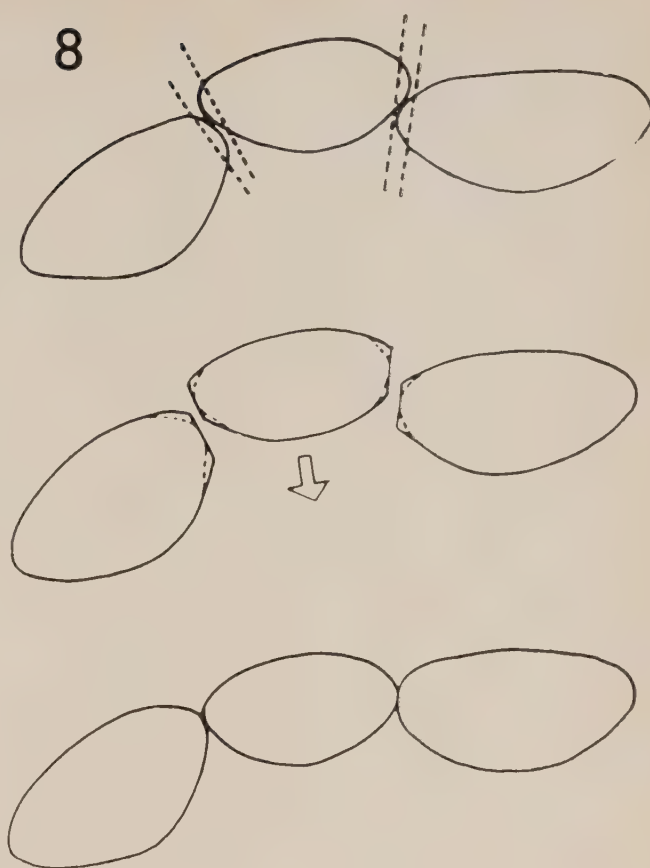


FIGURE 8 Le meulage et le polissage des surfaces proximales permettent, dans un cas d'enchevêtrement léger, de redresser les dents et de ne pas les extraire. (D'après Hirschfeld, *Minor tooth movement in general practice*, Mosby.)

feld en ces termes:⁶ "Il est possible, quand il y a un léger entassement, de diminuer la largeur de chaque dent. Ordinairement, on ne peut enlever plus de la moitié de la couche d'émail sans favoriser la carie, mais on peut faire exception à cette règle si on projette la préparation de couronnes."

Autres cas. — D'autres cas sont possibles. Il suffit de signaler la relation très étroite qui existe, par exemple, entre les légers redressements des dents et la prothèse partielle amovible. Dans la construction d'une prothèse partielle, le plan d'insertion est un facteur important. Souvent, un léger déplacement des dents améliore ce plan d'insertion et, par le fait même, la qualité de la restauration. Les cas d'occlusion trop fermée sont assez fréquents; là encore, les mouvements extrusifs des postérieures et les mouvements intrusifs des antérieures, à l'aide d'une plaque temporaire, sont souvent indispensables pour éviter une destruction périodentaire, des troubles à l'articu-

lation temporo-mandibulaire, ou encore pour faciliter l'insertion d'une prothèse partielle. Il importe, dans ces cas, de vérifier l'espace interocclusal du patient avant de faire quoi que ce soit.

Le dentiste, grâce à ses connaissances et en s'appuyant sur les principes qui guident le redressement des dents, peut solutionner les autres problèmes qui peuvent se présenter.

CONCLUSIONS

L'étude de l'importance des légers déplacements des dents avant la restauration définitive soulève des questions intéressantes. D'abord, l'omnipraticien a-t-il suffisamment recours à de telles méthodes? Même si les redressements mineurs intéressent de plus en plus la profession, il semble qu'elle n'en fasse pas suffisamment usage.

Les praticiens actuels, qui ont terminé leurs études il y a quelque temps déjà, n'ont pas eu l'occasion de bénéficier de cours ou démonstrations cliniques expliquant la nécessité des traitements mineurs d'orthodontie. Il leur semble que ces traitements n'appartiennent pas à leur domaine; c'est pourquoi, ils réfèrent des cas pour la plupart très simples à des confrères orthodontistes. De plus, dans l'esprit de plusieurs, les redressements dentaires semblent se limiter presque exclusivement aux enfants et aux adolescents.

Il faut donc corriger cette mentalité. Gullett,¹⁵ dans un récent article, citait des chiffres démontrant qu'avec le développement des plans de santé dentaire, la demande pour les traitements d'orthodontie allait être assez considérable et, qu'en conséquence, les orthodonties ne pourraient seuls y faire face. Il est donc essentiel que les omnipraticiens participent plus activement au traitement des cas mineurs d'orthodontie. Rapportons à ce sujet les paroles de Gullett.¹⁵ "Le problème est tel que les orthodontistes ne peuvent parvenir seuls à contrôler toute la situation. Le praticien général doit participer plus activement à l'orthodontie plus particulièrement dans le domaine de la prévention."

Et plus loin, il continue en des termes

qui rappellent la réunion de mars 1963 de l'Association dentaire canadienne où, précisément, il fut question du curriculum des études sous-graduées en orthodontie. "Il faut, au besoin, modifier le curriculum des études sous-graduées afin d'assurer un entraînement propre à répondre à ces exigences."

Le curriculum actuel des facultés dentaires permet à l'étudiant sous-gradué de traiter certains cas mineurs de malpositions locales chez l'enfant. Il serait bon de donner plus d'envergure aux redressements dentaires chez l'adulte, notamment, quand des travaux de restauration assez extensifs dans les domaines de la prothèse partielle fixe ou amovible doivent être entrepris; ou encore quand il s'agit de traitements de périodontie.

Dès lors, l'omnipraticien serait plus en mesure de prodiguer à ses patients des soins qui seraient à la fois efficaces et complets en plus d'obtenir pour lui-même la satisfaction du devoir accompli qui n'est certes pas négligeable chez un professionnel compétent.

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The Living Matrix of Plaque

J. D. Wildman. D. Progress 3:183, 1963.

Dental plaque continues to be a problem for researchers and practitioners. The author presents an interesting theory that the intermicrobial material or embedding material is a living substance. Structures seen in plaque specimens in varying forms are explained on the basis of this theory. Final proof must wait upon a new methodology for studying a complex metabolic situation in which both the organism and the intermicrobial substance may be living. Possible implications to caries and periodontal disease cannot be predicted at this early date.

History of Dentistry in Korea

Kim Yong-Kwan. Korea Journal 2:18, December 1962.

Although the history of dentistry in the Republic of Korea dates back seventy years, it is only since the liberation in 1953 that progress has been made. Compared to the number of dentists in Korea in 1945, there were four times as many in August of 1962, a total of 1,657. But this still makes available only one dentist for every 16,000 people. Most of these dentists practise or open clinics in cities and large towns so that there is a very unbalanced distribution to the detriment of rural areas. It is estimated that 83 to 90 per cent of the people have tooth decay.

The United States Military Government set up the Bureau of Dental Affairs under the Department of Health and Social Affairs but the national budget cannot af-

ford at present the forced distribution of dentists to the rural areas nor the expense for the instruments and apparatus necessary to open clinics.

The greatest need in the Republic of Korea today is a new dental school building within the campus of Seoul National University and the authorities are presently working on plans for a medical centre at the university which will embrace dentistry, medicine and pharmacology where the pharmaceutical college is already located. There is also the need of establishing a doctorate system in dentistry with well-qualified professors to guide the students. At present dentists in Korea cannot receive a doctor's degree in dentistry alone — only in medicine — which leads the majority of students to study medicine instead of dentistry.

Oral Moniliasis

F. V. Howell. D. Progress 3:172, 1963.

Chronic oral lesions may be infected with the fungus, *Candida albicans*. The author treated 47 cases of various ætiology with a formulation of amphotericin B (an anti-fungal antibiotic) in *Orabase*, a vehicle which has the quality of maintaining itself in the mouth. Results were good, irrespective of the source and type of lesion.

Practitioners may find use for this agent in denture-sore mouth, in fungus over-growth following topical or systemic antibiotic therapy, or in any chronic lesion where fungus invasion may be a factor. Even where fungi may not be present, the protective action of the vehicle can be beneficial.

A Clinical Assessment of Three Desensitizing Toothpastes Containing Formalin

J. O. Forrest. Brit. D. J. 114:103, 1963.

An assessment of three dentifrices containing formalin, said to be of similar active formula advocated for the treatment of sensitive teeth, was undertaken. One of these was an American dentifrice (Thermodent) which has a somewhat salty and rather dominant formaldehyde taste. In the other two dentifrices tested — a British dentifrice (Emoform) and a Swiss dentifrice (Emoform) — the formaldehyde taste appeared to be somewhat less obvious. All three pastes tested were stated to contain 1.29 per cent to 1.4 per cent formalin as the active agent in precipitated chalk, salts and flavouring agents.

The patients treated were classified into

three groups: group 1 consisted of those whose symptoms were severe enough to be a primary cause for attention or complaint; group 2 consisted of patients who had made no specific complaint of discomfort; group 3 consisted of patients who had sensitivity (sometimes as marked as in group 1) but which was apparent only following surgery, trauma, or instrumentation and which was regarded as possibly of a transient nature.

All three dentifrices were frequently found to be of value in treating generalized areas of moderate sensitivity and exposed sensitive occlusal dentine without the aid of other local medication. They were not so effective in treating severe cervical sensitivity. In these cases the formalin dentifrices were of value in maintaining the areas free from further symptoms following treatment by one of the conventional methods.



If you are going to the C.D.A. National Convention in Quebec this May, be sure to see St-Louis Gate, one of three such massive stone gates still standing which form part of the protective wall around old sections of Quebec City.

Quebec: city with a history

Quebec City, the “Gibraltar of America,” will be the site of this year’s national convention of the Canadian Dental Association. With its historical background and natural beauty, Quebec has something of interest to offer every visitor.

It was here, in 1535, where Jacques Cartier first visited what was then known as the Indian village of Stadacona. The promontory on which the oldest part of the city is built was named Cap aux Diamants by Cartier. Quebec, itself, was founded by Samuel de Champlain in 1608. It is said the name of the city was derived from the Indian word ‘kebec’ which means ‘the river narrows here,’ probably because the St. Lawrence River is only a mile wide at this point and the town of Lévis stands on the opposite bank.

Quebec is often called the ‘cradle of New France’ because of the activity which centered here during the French regime. Many wars were fought in the 17th and 18th centuries between France and England and history has recorded such names as Phips, Frontenac, Wolfe and Montcalm. On the creation of the province of Lower Canada, Quebec was named the capital and from 1852 to 1855 and 1860 to 1867 it was the capital of the United Province of Upper and Lower Canada. It was here in 1864 that a conference was held which resulted in the Canadian Confederation, and in 1867 Quebec City became the capital of the province of Quebec.

Quebec, incorporated as a city in 1832, is divided into two sections: the upper town and the lower town. The upper town, comprising most of the older parts of the city, is situated on and around Cape Diamond. Here stands the lofty Citadel that overlooks the city. A small part of the upper town is surrounded by walls with gates, making Quebec the only fortified city in North America. Below the Citadel is the Château Frontenac, a large hotel whose high tower can be seen well above Quebec’s skyline. Close by is also the famous promenade known as the Dufferin Terrace. The lower town is given over to commercial interests. If one likes quaintness it can be found in the old and picturesque, narrow streets of the upper and lower town.

Besides being a city steeped in history, Quebec is an important industrial centre and its harbour can accommodate the largest vessels.

There are many ways of getting about Quebec to see the many points of interest that must be visited. One is by the two-wheeled carriage known as a calèche which may be hired by the hour or on a flat rate basis. Old fashioned buggies are also available. Busses can be used for unplanned tours and all points of interest are within walking distance from the bus stops. Guides are available if a person wishes to use his own car or hire a taxi. And, of course, there are numerous planned sightseeing tours.

The Notre-Dame des Victoires Church, built in 1688, contains old relics and lovely paintings by old masters. The Basilica, dating back to 1647, has burned twice but was rebuilt both times with the original walls still standing. Within its precincts remain famous paintings and silver vessels from the French regime. The city’s Anglican Cathedral is noteworthy as the first Church of England to be erected outside the British Isles. Built in 1804, its stained windows are priceless. The Ursulines Convent, founded in 1639, is the oldest

convent in Canada. Hôtel-Dieu Hospital, also founded in 1639, contains many fine paintings, furniture and silver dating back to the seventeenth century. A wonderful collection of souvenirs of Canada under both French and British rule is housed in the Provincial Museum on the Plains of Abraham. Entertainment for the whole family is provided at the Aquarium which maintains one of the finest collections of eastern North American fish as well as some rare and seldom seen species from distant places. A continuous daily program of films on nature and wild life is presented at the Aquarium. And there is also the Quebec Wax Museum with its life size figures drawn from past events in Canada and the United States.

Within a radius of 25 miles of the city and accessible by car and bus are many lovely drives with views unsurpassed in beauty and variety. The 274 foot high Montmorency Falls are but six miles away. Further on, at a distance of 21 miles, is the renowned Shrine of Ste-Anne de Beaupré. The adjacent Ile d'Orléans is connected to the mainland by a bridge that is only six miles from Quebec. The real spirit of French Canada still exists on this island, little changed and little affected by modern progress. Situated in the foothills of the Laurentians seven miles away is the Zoological Garden which houses collections of birds and mammals from North and South America.

Whether it be history, scenery or industry, there is certainly something for everyone to enjoy in and around this "Ancient Capital," the City of Quebec.

Plugging a gap

Few of us will ever forget the tragic consequences that ensued when a relatively new but ostensibly safe drug was administered to pregnant women some years ago. Previously tested and introduced for therapeutic use in Europe, thalidomide was at first acclaimed as a desirable mild hypnotic and sedative until there accumulated evidence of embryopathy and phocomelia in children born to women who had received the drug during gestation. This episode provides telling evidence of human fallibility, a quality that persists despite man's attempt to remove every hazard from his environment. It is reassuring, therefore, that the Food and Drug Directorate of the Department of National Health and Welfare has now embarked on a vigorous drug adverse reaction reporting campaign in order that any potential hazard connected with the administration of drugs may be exposed at the earliest opportunity.

The reporting program consists of two parts: one centered around hospitals, and the other related to those reactions occurring or reported outside of the hospital. It is the second aspect which is of concern and benefit to the dentist and his patient. Special report forms are to be made available to Canadian dentists by the Food and Drug Directorate. Whenever a patient experiences any unusual or untoward reaction to drugs prescribed by a dentist, the latter is asked to record the details on the report form and forward this form to the Directorate in Ottawa. It is understood that a parallel procedure has been instituted for members of the medical profession. All information received by the Directorate is treated in strictest confidence.

Those who prescribe drugs share a continuing responsibility with the manufacturer in nourishing the stock of knowledge relating to the safety and efficacy of all manner of therapeutic products. Drug adverse reaction reporting is consequently a legitimate responsibility for the dental profession, one in which every member is urged to co-operate to the utmost. In this way the dentist will

be able to administer drugs with better assurance of their safety. The public will also benefit from care by better informed practitioners. Moreover, through Canada-wide coverage and central accumulation and processing of these data, pharmaceutical manufacturers will be alerted to potential troubles at an earlier stage of the development of new therapeutic products. In the long run this will undoubtedly spare lives and prevent unnecessary suffering. Such action will, in addition, serve to protect the reputation and integrity of the nation's physicians, dentists and pharmaceutical manufacturers.

Ottawa lance un programme de sécurité concernant les drogues

Peu d'entre nous n'oublierons jamais les tragiques conséquences qui ont suivi l'administration d'un médicament, en apparence, inoffensif aux femmes enceintes, il y a quelques années. Auparavant éprouvée et introduite en Europe pour emploi thérapeutique, la thalidomide avait été, au début, acclamée comme léger hypnotique et sédatif jusqu'au moment où une accumulation d'évidences d'embryopathie et de phocomélie se déclara chez les enfants nés de femmes qui avaient pris cette drogue durant la gestation.

Cet épisode met bien en évidence la faillibilité humaine, une caractéristique qui persiste, malgré les efforts de l'homme à faire disparaître les hasards de son entourage. Toutefois, il est rassurant de savoir que le directeur de la Section des aliments et médicaments du Ministère de la santé et du bien-être social met en marche une campagne vigoureuse pour le reportage des réactions défavorables à certains médicaments, de sorte que les risques relatifs à l'administration de ces médicaments soient exposés à la première occasion.

Le programme de reportage se compose de deux parties: une est concentrée dans les hôpitaux et l'autre associée aux réactions se produisant ou rapportées d'en dehors de l'hôpital. C'est ce second aspect qui est d'intérêt et de bienfait pour le dentiste et ses patients. La section des aliments et médicaments a mis ou mettra bientôt à la disposition des dentistes, des formules imprimées spécialement pour ce reportage.

Quand un patient ressentira une réaction défavorable ou inusitée aux médicaments ordonnés par un dentiste, celui-ci est prié d'en noter les détails sur cette formule et de l'expédier au directeur, à Ottawa. Il est convenu qu'un processus identique est aussi requis de la profession médicale. Toute information reçue par le directeur est tenue dans la plus stricte confidence.

Ceux qui prescrivent des médicaments partagent une responsabilité continue avec les fabricants de disséminer leurs connaissances en relation à la sécurité et l'efficacité de tous produits thérapeutiques. Le reportage des réactions défavorables aux médicaments est par conséquent, une responsabilité légitime de la profession dentaire, une responsabilité où la coopération de chaque membre est requise au plus haut degré. Ainsi, le dentiste pourra administrer des drogues avec assurance en leur sécurité. Le public bénéficiera aussi de soins prodigués par des praticiens mieux informés. De plus, grâce à l'étendue du champ d'application, par tout le Canada, à la centralisation de l'amas de renseignements et au traitement de ces données, les fabricants de pharmaceutiques seront alertés plus tôt aux risques qu'il incombe au développement de nouveaux produits thérapeutiques.

Dans l'avenir ceci sauvera, indiscutablement, bien des vies et évitera beaucoup de souffrances inutiles. Une telle action servira, en plus, à protéger la réputation et l'intégrité des médecins, dentistes et fabricants de produits pharmaceutiques de la nation.

Nouvelles du Congrès national

On annonce des détails du programme social

Jacques Dufour de Québec, nous annonce les détails suivants concernant le programme social du Congrès national à Québec:

Dimanche, le 30 mai, à 8 hres 30 p.m.: 'Rencontre dans une rue de Paris': danses apaches et accordéoniste; dégustation de vins, fromages et café. Costume: tenue de ville.

Lundi, le 31 mai, à 6 hres 30 p.m.: Départ du Château Frontenac en diligence, coquetel, buffet et soirée canadienne. Démonstration d'artisanat, chorales, danses carrées et modernes, spectacle de danses folkloriques. Costume: chemise à carreaux pour les hommes, blouse blanche et jupe paysanne pour les dames.

Mardi, le 1er juin: Soirée libre pour les réunions de classes; des tournées de cabarets; promenades en calèches sous les étoiles; visites entre confrères; etc. Ceux qui désireraient organiser une réunion de classe peuvent communiquer avec le Secrétariat à 1160 avenue des Erables, Québec, 6, P.Qué., pour avoir un local et autres facilités.

Mercredi, le 2 juin, à 7 hres p.m.: Dîner et bal du président de l'A.D.C. sous le patronage de l'honorable Jean Lesage, premier ministre du Québec. Le soprano Claire Gagnier, deux orchestres et une chorale vous divertiront. Tenue facultative.

Programme des dames

On nous signale les événements suivants pour dames:

Dimanche, le 30 mai: Soirée française.

Lundi, le 31 mai: déjeuner au Manoir St Castin, Lac Beauport.

Mardi, le 1er juin: Tour de la ville de Québec, suivi du thé au Pavillon Pollack à la Cité Universitaire.

Mercredi, le 2 juin: Déjeuner à la Bastogne et présentation du film du Carnaval de Québec.

Mercredi soir: Dîner et bal du président de l'A.D.C.

Divers

Le congrès national coïncidant avec la meilleure saison de la pêche à la truite sur les lacs de Québec, tous les pêcheurs désireux d'en profiter sont invités à communiquer dès maintenant, pour leurs réservations, avec le Service des parcs, Ministère du tourisme, Hôtel du Gouvernement, Québec 4, P.Qué.

Nous vous informons également qu'un kiosque de renseignements sera installé au Château Frontenac pour aider tous les délégués qui désireraient visiter Ste-Anne-de-Beaupré, l'Île d'Orléans, la Gaspésie ou faire une excursion au Saguenay en bateau.

Les amateurs de golf pourront pratiquer leur sport, notamment au tournoi de l'A.D.C.

Nous tenons à vous communiquer également que Air Canada a élaboré un projet de voyage après le congrès pour vous permettre de visiter l'Exposition mondiale de New York pour un prix minimum.

Programme de la section de périodontie de l'A.D.C.

La réunion annuelle de l'Académie canadienne de périodontie aura lieu conjointement avec le congrès national de l'Association dentaire canadienne au Château Frontenac de Québec, le 31 mai et les 1er et 2 juin. Le secrétaire de l'Académie, J. E. Speck, de Toronto, nous annonce le programme suivant:

LUNDI, 31 MAI

9:00 hres a.m. Inscription

- 11:00 hres a.m. L. E. Francis, Université McGill: Médicaments et leurs effets dans les maladies de la bouche.
- 2:30 hres p.m. R. H. Johnson, Université McGill: Diagnostic différentiel des affections buccales.
- 3:30 hres p.m. J. G. Dale, Université de Toronto: Résorption du tissu osseux, réaction des tissus au redressement des dents, et développement de l'articulation tempéromandibulaire.

MARDI, 1er JUIN

- 9:00 hres a.m. Réunion d'affaires
- 11:00 hres a.m. W. F. Walford, Université McGill: Périodontie et le patient diabétique.
- 2:30 hres p.m. Anders Bennick, Université de Toronto: Quelques aspects des progrès en synthèse et réduction du collagène.
- 3:30 hres p.m. Commentaire sur le rapport de la Commission royale d'enquête sur les services de santé. Séance plénière.

L'Association

Le Président Langlois en tournée dans l'ouest

Les sociétés dentaires de l'ouest canadien ont reçu, le mois dernier, des visites du président de l'Association dentaire canadienne, le docteur Rémy Langlois, durant la tournée présidentielle annuelle des provinces de l'ouest.

Accompagné du secrétaire, W. G. McIntosh, le Dr Langlois a adressé des allocutions aux réunions de Winnipeg le 22 février, à Regina le 23 février, à Saskatoon le 24 février, à Calgary le 25 du même mois, à Victoria le 1er mars, à Vancouver le 2 mars et à Edmonton le 3 mars.

Meilleure information sur l'assurance — retraite préconisée pour les dentistes

Un précis des mesures à prendre pour améliorer les informations aux dentistes en ce qui concerne les facilités et les bénéfices à tirer du programme économique de pensions, assurances et épargne-retraite de l'Association dentaire canadienne, a été le sujet principal de la réunion du comité spécial des études d'as-

surances commerciales de l'A.D.C., qui eut lieu les 11 et 12 janvier.

Le comité a examiné tous les plans d'assurance approuvés par l'A.D.C. en plus des plans offerts par d'autres organismes dentaires à travers le Canada. Une attention particulière fut portée aux mérites relatifs des plans individuels et pour les groupes ainsi que l'administration de ces plans en relation à la profession.

Le comité est chargé de l'investigation des plans promus par la profession dentaire; de faire des recommandations relativement aux mérites des polices offertes; de recommander des moyens d'opération de ces plans d'assurances et d'obtenir des conseils d'experts quand cela est opportun.

Le comité est formé des membres suivants: D. C. Steeves de Moncton, George Zimmerman de Montréal, D. C. Way de London, D. C. McKechnie d'Edmonton, O. F. Wright de Vancouver et M. V. J. Keenan de Sudbury qui en est le président. P. C. Lowery et P. G. Anderson de Toronto, administrateurs des programmes de pension et d'assurances de l'A.D.C., assistaient aussi à cette réunion.

Le Comité des services auxiliaires se réunit

Des résolutions (1) recommandant des études plus approfondies en relation de l'extension des fonctions de l'hygiéniste dentaire, (2) favorisant un programme national de certificats pour les assistantes dentaires, et (3) sanctionnant le principe de programmes d'entraînement précis et de certificats pour les techniciens dentaires, ont été adoptés par le Comité des services auxiliaires de l'Association dentaire canadienne, lors d'une réunion qui eut lieu le 22 janvier. Le comité a demandé que soient poursuivies, au Canada, des études approfondies du personnel auxiliaire avant de procéder en regard aux auxiliaires dentaires selon les préconisations de la Commission royale d'enquête sur les services de santé.

Le comité a examiné la position actuelle des hygiénistes dentaires, assistantes dentaires et des techniciens de laboratoires dentaires dans chaque province. Elle a aussi reçu un rapport du Corps dentaire royal canadien concernant ses progrès

dans l'emploi de différents auxiliaires dentaires et de dentistes formant équipes et les résultats dans la productivité et la qualité des services rendus.

Les membres du comité présents à cette réunion étaient: le président H. R. McLean d'Edmonton, G. C. Swann de Calgary; L-P. Dubé de Québec; M. Nacht de Vancouver et E. T. Downton de Toronto.

Canada

Impôts sur le revenu: certaines déductions sont possibles pour les frais d'automobile

Très fréquemment, plusieurs dentistes s'enquièrent de la possibilité de déduire certains frais d'automobile de leurs impôts sur le revenu. La Division des impôts, du Ministère fédéral du revenu national, a déclaré que les frais de taxis ou d'automobile occasionnés par des visites à la demeure de patients dans l'exercice de ses fonctions professionnelles, peuvent être déduits par le dentiste. Les frais de transport entre sa maison et son cabinet, ne sont pas, toutefois, sujets à cette réduction.

De plus grands détails sont pourvus dans l'émission du 18 janvier du *Canada Tax Service* (No 168):

"Quand les dépenses de voyage d'un contribuable sont pour ses affaires et que des frais de voiture, dont il est l'opérateur, sont inclus, il est d'importance que le contribuable inscrive d'une façon continue le nombre de milles parcourus et les dépenses encourues . . .

"Quand une voiture est utilisée pour un usage personnel aussi bien que pour affaires, le contribuable doit être prêt à prouver au moyen de fiches et de pièces justificatives, l'étendue de l'usage de la voiture pour affaires, de façon à obtenir le montant réclamé pour ces dépenses. L'allocation sur le montant de capital, dans ces cas, sera une portion de l'allocation totale en rapport avec la part d'usage régulier de la voiture pour les affaires.

"Aucune déduction ne peut être admise à l'égard d'une voiture pour passagers acquise après le 13 juin, 1963 au montant de plus de \$5,000 . . ."

La Division des impôts a aussi émis un bulletin d'information (No 28) se référé-

rant aux réclamations de dépenses de particuliers, comme suit:

"L'objet de ce bulletin est d'informer du montant approprié, les particuliers qui ont droit de réclamer des déductions d'impôts pour les frais de voitures employées en partie pour leurs affaires et en partie pour usage personnel.

"Une réclamation de déduction doit être basée sur le même pourcentage des dépenses totales de la voiture que celui des milles parcourus pour affaires est au total des milles de marche de la voiture. En aucun cas, le contribuable a-t-il le droit de réclamer une somme fixe de pourcentage de dépenses de voiture, d'année en année, sans égard aux variations dans l'étendue de l'emploi de la voiture pour raisons d'affaires.

"Pour être qualifiés, les milles parcourus doivent être en rapport aux affaires conduites au-delà de l'endroit usuel de pratique. Les parcours entre le cabinet et la résidence ne doivent pas être inclus dans le millage d'affaire . . .

"Une liste détaillée des dépenses d'automobile doit être attachée et déposée sur le Rapport des revenus personnels généraux (la formule T1), avant de n'en déduire aucune portion pour usage personnel.

Ottawa lance une campagne de sécurité à l'endroit des médicaments

Une campagne de force majeure, destinée à exposer toutes réactions inusitées ou défavorables aux médicaments employés dans les hôpitaux ou ordonnés par les médecins et dentistes, est en train d'être lancée par le Directeurat des aliments et médicaments du Ministère de la santé et du bien-être national.

L'objet de ce programme est de donner au directeurat la possibilité de tenir en surveillance serrée la sûreté des drogues. Le programme résulte de la tragédie de la thalidomide d'il y a quelques années. Des réactions défavorables ont occasionné de semblables programmes aux Etats-Unis et en Angleterre.

Durant cette campagne, le directeurat fournira aux dentistes des formules imprimées où seront rapportées les réactions défavorables aux médicaments. Quand un patient ressent une réaction inusitée ou malencontreuse aux médicaments ordonnés par le dentiste, il lui est demandé d'en décrire les détails sur cette formule et de l'expédier au Directeurat des aliments et médicaments, à Ottawa. Ces informa-

tions sont reçues dans la plus stricte confiance.

La pleine coopération des dentistes est indispensable. Parmi les bénéfices prévus sont (1) une plus grande sécurité dans les produits thérapeutiques employés par les dentistes; (2) meilleure protection du public; et (3) un alertement plus rapide aux dangers potentiels associés aux drogues récemment exploitées.

M Croft élu au Conseil canadien de l'exposciences

K. L. Croft, secrétaire adjoint de l'Association dentaire canadienne, récemment, fut élu membre du comité exécutif du Conseil canadien de l'exposciences. M Croft est le représentant de l'A.D.C. au Conseil.

Pour aviver l'intérêt des jeunes dans les sciences et les mathématiques, le Conseil canadien de l'exposciences, une organisation bénévole, a établi en 1959, des primes destinées aux vainqueurs de concours annuels. Ainsi, les garçons et les filles qui excellent en sciences sont choisis parmi les finalistes de tout le Canada par l'exposciences trans-Canada qui aura lieu en l'Université du Manitoba, Winnipeg, les 6-8 mai, 1965.

Traitement des enfants du Yukon par les infirmières dentaires

Selon des rapports de la presse, on expérimente un service dentaire du genre, modifié, de celui de la Nouvelle-Zélande, dans les écoles du nord-ouest du Canada. Connu sous le nom de 'Yukon School Dental Service Pilot Project,' il pourvoit à l'éducation et un service de traitement aux enfants des premières et secondes années de Whitehorse, Porter Creek et Carcross, dans le territoire du Yukon. Le but de ce programme est d'améliorer la santé dentaire des enfants, grâce à l'éducation et à des traitements systématiques.

On signale que les enfants admis dans ce projet subissent un examen prélimi-

naire par un dentiste de la clinique dentaire de Whitehorse qui prescrit un traitement que donnera l'infirmière dentaire de l'école. L'infirmière prodigue ces traitements généralement à l'école; elle fait aussi des prophylaxies et des applications d'une solution de fluor. Les restaurations compliquées et les extractions sont exécutées par le dentiste. Les enfants sont traités gratis.

Les journaux décrivent ce programme comme étant une coopérative du Service de santé du Yukon et de l'Association dentaire du Yukon. On le dit subventionné par des fonds fédéraux et territoriaux.

Don du Collège de la Saskatchewan au Fonds pour l'enseignement dentaire

Le Fonds canadien pour l'enseignement dentaire a reçu un don de \$1,000 de la part du Collège des chirurgiens dentistes de la Saskatchewan. Une décision autorisant le don ayant été résolue à la réunion du conseil du Collège de la Saskatchewan tenue à Regina à l'automne dernier.

Le conseil adopta aussi une politique de contributions, In memoriam, au Fonds pour l'enseignement dentaire à la mort de l'un des membres du Collège.

La Cour suprême de la Colombie britannique maintient la discipline

La cour suprême de la Colombie britannique maintient le droit que le Collège des chirurgiens dentistes de la Colombie britannique possédait de suspendre un dentiste coopérant de façon non-professionnelle avec un denturiste. Le Collège en l'occurrence prononça une suspension de quatre mois contre un dentiste qui, après l'extraction des dents d'un patient "n'était pas justifiable de croire que la prothèse sera ajustée et fournie par un autre dentiste." Le patient ne se présenta chez un autre dentiste qu'à la suite d'une infection, cause de douleur.

dentistry in the news

National Convention

Announce Social Program

Jacques Dufour of Quebec City, publicity chairman for the national convention, has announced the following details concerning the social program:

Sunday, May 30, 8.30 p.m.: A "Get-together in a Paris street" with Apache dances and accordion music. Wine and cheese tasting party and coffee. Dress informal.

Monday, May 31, 6.30 p.m.: Departure by coach from the Chateau Frontenac for cocktails, buffet dinner and "Soirée Canadienne" at the Québec Winter Club. Art and handicraft exhibit; choral and folk music; dancing. Dress country style.

Tuesday, June 1: Evening open for class reunions, cabaret tour or night-time calèche tour of the city. Class reunions may be arranged through the convention secretary, 1160 avenue des Erables, Québec 6, P. Québec.

Wednesday, June 2, 7.00 p.m.: C.D.A. President's banquet and ball under the patronage of the Hon. Jean Lesage, premier of the province of Quebec. Entertainment provided by soprano Clare Gagnier, a choir and two orchestras. Dress optional.

Ladies' Activities

Events for ladies include the following activities:

Sunday, May 30: Soirée Française.

Monday, May 31: Luncheon at the Manoir St-Castain, Lac Beauport.

Tuesday, June 1: Departure from the Chateau Frontenac for an afternoon tour of Quebec City, followed by afternoon tea at the Pavilion Pollack on Laval University campus.

Wednesday, June 2: Luncheon at La Bastogne Restaurant with film of the

Quebec Winter Carnival. Wednesday evening: C.D.A. president's banquet and ball.

Other Items:

The national convention coincides with the best trout fishing season in Quebec. Fishing enthusiasts who wish to try their skill in the lakes of nearby Laurentide Provincial Park are invited to make immediate reservations with the Service des Parcs, Ministère du Tourisme, Hôtel du Gouvernement, Québec 4, P. Québec.

A special booth in the Chateau Frontenac will offer information concerning excursions to Ste-Anne de Beaupré, the Ile d'Orléans, the Gaspé Peninsula, or a St. Lawrence-Saguenay boat trip.

Golf facilities will be available for all pros and amateurs. Don't miss the C.D.A. golf tournament.

A post-convention trip to the New York World's Fair may be arranged at a specially reduced rate through Air Canada.

The Association

Advocate Improved Pension-Insurance Education for Dentists

Specific measures to improve dentists' information about the availability and benefits of C.D.A.-approved pension, insurance and retirement savings plans were a major topic at a meeting of the C.D.A. Special Advisory Committee on Commercial Insurance Studies, January 11-12. The committee reviewed all current C.D.A.-approved insurance plans as well as plans offered by other dental organizations across Canada. Particular attention was devoted to the relative merits of individual and group plans and the administration of such plans for the profession.

The committee's terms of reference authorize it to investigate insurance programs sponsored by the dental profession; to make recommendations respecting the merits of policies offered; to recommend the means of operation of insurance programs; and to obtain expert advice when advisable.

Members of the committee are D. C. Steeves of Moncton, George Zimmerman of Montreal, D. C. Way of London, D. C. McKechnie of Edmonton, O. F. Wright of Vancouver, and M. V. J. Keenan of Sudbury (committee chairman). Also in attendance were P. C. Lowery and P. G. Anderson, Toronto, trustees for C.D.A. Pension and Insurance Plans.

Auxiliary Services Committee Meets

Resolutions (1) recommending further studies in connection with the extension of duties of the dental hygienist, (2) supporting a program of national certification for dental assistants, and (3) endorsing the principle of formal training programs and certification for dental technicians were adopted by the C.D.A. Auxiliary Services Committee at a meeting on January 22. The committee asked that further studies be conducted in Canada on dental auxiliary personnel prior to any action or implementation on dental auxiliaries as advocated in the Report of the Royal Commission on Health Services.

The committee reviewed the present position of dental hygienists, dental assistants and dental laboratory technicians in each province. Also received was a progress report from the Royal Canadian Dental Corps concerning employment of various dental auxiliaries and dentists as a dental team and the resultant productivity and quality of services rendered.

Attending committee members were H. R. McLean of Edmonton, chairman; G. C. Swann of Calgary; L.-P. Dubé of Quebec City; M. Nacht of Vancouver and E. T. Downton of Toronto.

Council on Public Health Meets

The Council on Public Health met at Association headquarters, February 1-2. Among various progress reports con-

sidered were statements on the following topics: the Canadian national dental health survey, the International Classification of Diseases sponsored by the World Health Association, a proposed survey of public health dentistry, and studies on the training and utilization of dental auxiliaries by the Royal Canadian Dental Corps.

Attending the meeting were A. R. S. Gray of Calgary, chairman; Yves La-Fleur, St - Hyacinthe, P. Que.; B. J. O'Meara, Charlottetown; K. F. Pownall, Toronto; and D. J. Yeo, Vancouver.

President Langlois Tours West

Dental organizations in western Canada received visits from C.D.A. president Rémy Langlois last month during the annual presidential visitation tour to the western provinces. Accompanied by Secretary W. G. McIntosh, Dr. Langlois addressed meetings at Winnipeg on February 22, Regina on February 23, Saskatoon on February 24, Calgary on February 25, Victoria on March 1, Vancouver on March 2, and Edmonton on March 3.

Canada and the Provinces

Some Auto Expenses Are Tax Deductible

Many dentists frequently enquire whether automobile expenses are deductible for income tax purposes. The Taxation Division of the Department of National Revenue has ruled that "taxi fares and automobile expenses incurred in earning the income from dental practice will be allowed when the dentist must visit patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income."

Further details are provided in the January 18 issue of *Canada Tax Service* (Release No. 168):

"Where travelling expenses away from home in pursuit of the taxpayer's business include the expenses of an automobile operated by him, it is important for the taxpayer

to keep proper and continuous records as to the mileage covered and the expenses incurred. . . .

"Where an automobile is used for both personal and business use, the taxpayer must be prepared to prove by means of records and vouchers the extent of the business use made of it in order to obtain the amount claimed as expenses. The capital cost allowance in such case will be that portion of the full allowance that the use made regularly for business purposes is of the total use regularly made of the automobile. . . . No deduction whatever may be made for capital cost allowance in respect of a passenger automobile acquired after June 13, 1963 at a cost of more than \$5,000. . . ."

The Taxation Division has also issued the following information bulletin (No. 28) with reference to automobile expenses claimed by an individual:

"The purpose of this bulletin is to inform individuals who are entitled to claim automobile expenses as deductions for income tax purposes of the proper amount to be deducted when an automobile is used partly for earning income and partly for personal use.

"A claim for a deduction should be based on the percentage of the total automobile expenses that the business miles travelled is of the total miles travelled. In no case is a taxpayer entitled to claim a fixed percentage of his automobile expenses year after year, regardless of variations in the extent to which the automobile is used for business purposes.

"To qualify as business mileage, the travelling must be in connection with business duties carried on away from the usual place of business. Travelling between residence and office must *not* be included in business mileage.

"A detailed list of automobile expenses should be attached to and filed with the T1 General Individual Income Tax Return. . . .

"A taxpayer should be prepared to satisfy the Taxation Division that he is entitled to the expenses claimed. That is, he should be able to produce vouchers for the automobile expenses listed and to support both the total miles travelled during the year and the business miles travelled during the year. . . .

"Capital Cost Allowance, to be entered in the list of automobile expenses, should be calculated in accordance with the instructions on the T1 General Individual Income Tax Return before deducting any portion for personal use."

Ottawa Launches Drug Safety Campaign

A major campaign aimed at exposing any unusual or adverse reactions from drugs used in hospitals or prescribed by physi-

cians and dentists is being launched by the Food and Drug Directorate of the Department of National Health and Welfare. The purpose of the program is to enable the Directorate to tighten up its surveillance of drug safety. The program is an indirect outcome of the thalidomide tragedy of some years ago. Similar adverse reaction reporting programs have been started in the United States and Great Britain.

As part of the campaign, the Directorate will supply dentists with drug adverse reaction report forms. Whenever patients experience any unusual or untoward reaction to drugs prescribed by a dentist, he is asked to record the details on this report form and forward the form to the Food and Drug Directorate in Ottawa. Such information will be treated in strict confidence.

Canadian dentists are asked to co-operate to the fullest extent. Among anticipated benefits are (1) better assurance of the safety of therapeutic products used in dental practice; (2) greater protection for the public; and (3) earlier warning of potential danger associated with newly developed drugs.

B.C. Court Upholds Discipline

The right of the College of Dental Surgeons of British Columbia to suspend a dentist for unprofessionally co-operating with a dental technician has been upheld by the B.C. Supreme Court. The College suspended the dentist for four months after he extracted the teeth of a patient when he "did not have reason to believe that the prosthetic appliance would be fitted and adjusted" by another dentist. The technician had taken impressions, made dentures, and arranged the extraction appointment with the dentist. The patient went to another dentist after he suffered pain and developed infection.

Croft Elected to Science Fairs Council

K. L. Croft, deputy secretary of the Canadian Dental Association, was newly elected to the executive committee of the

Canadian Science Fairs Council. Mr. Croft is the C.D.A. representative to the Council.

The non-profit Canadian Science Fairs Council was established in 1959 to promote youth interest in mathematics and science through annual award competitions. Thus, Canada's leading science-minded boys and girls are chosen from finalists at the Canada-Wide Science Fair which in 1965 will be held at the University of Manitoba, Winnipeg, May 6-8.

International Items

U. S. President Stresses Child Health Care

President Lyndon B. Johnson in his special health message to the United States Congress January 7 renewed his proposal for a program of health care for the aged under Social Security and pledged continued support for dental and medical education. To improve children's health the President also proposed legislation to permit federal participation in paying costs of medical and dental care for children in medically needy families.

Specifically recommended were:

Grants in aid of basic operating costs of health profession schools;

Project grants to permit these schools to experiment with new educational methods;

Scholarships for medical and dental students who would otherwise be unable to enter or complete such training;

Improved utilization of professional health personnel;

Expanded use and training of technicians and auxiliary health workers; and

Expanded and improved training programs for professional and supporting health personnel.

The President also recommended continuation and increased federal participation of health research.

A.D.A. Convention Sites Chosen

The American Dental Association has selected Las Vegas, Nevada, as the location of its annual session next autumn.

Other host cities for future sessions include Dallas 1966; Washington 1967; Miami Beach 1968; New York 1969; Las Vegas again in 1970, and Atlantic City 1971.

Canadians Invited to Hawaii

Canadian dentists have been invited to attend the 63rd Annual Meeting of the Hawaii State Dental Association, Honolulu, November 14-18. This meeting, which immediately follows the annual session of the American Dental Association in Las Vegas, will be known as the Pacific International Dental Conference. Interesting scientific sessions and a diversified social program are being planned. Canadian clinicians who wish to participate in the conference will be welcomed. Further information may be obtained by writing to E. N. Fujimoto, Room 291, Alexander Young Building, Honolulu, Hawaii 96813.

Dental Organizations

Nova Scotia Assn. Business Meeting June 19

Secretary W. H. Macneil has announced that the annual business meeting of the Nova Scotia Dental Association will be held on June 19. The meeting opens at 9.00 a.m. at the Citadel Inn, Halifax.

Ontario Societies Approve O.D.A.-R.C.D.S. Reorganization

A large majority of local dental societies in Ontario have given approval to the proposed reorganization of the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association. Recommendations to this effect, contained in a report submitted late in 1963 by Woods, Gordon and Co., Management Consultants, call for transfer to the O.D.A. of all functions not concerned with licensing and regulation of the profession (J. Canad. D. A. 30:385, June 1964). The R.C.D.S. Board of Directors, at their No-

vember 26, 1964 meeting, therefore instructed the O.D.A. - R.C.D.S. Liaison Committee to prepare a draft constitution and by-laws for the proposed new structure of the Ontario Dental Association.

The Board also concurred with a request from Metropolitan Toronto's chief coroner that patients' names be inscribed on artificial dentures to assist in the identification of bodies.

Results of the 1964 R.C.D.S. elections were as follows: J. P. Coupland of Ottawa, District 1; R. C. Honey of Peterborough, District 2; A. B. Sutherland of Sudbury, District 3; H. M. Jolley of Toronto, District 4; T. H. Wachna of Windsor, District 6; Ralph Michell of Kitchener, District 7; and W. E. Rajczak of Hamilton, District 8. President W. G. Bruce of Kincardine was re-elected from District 5.

North Bay Dentists Elect

W. D. Ure was recently elected president of the North Bay Dental Association. K. A. O'Grady is the secretary.

Manitoba Assn. Holds Mid-Winter Meeting

Over 150 Manitoba dentists registered for the mid-winter meeting of the Manitoba Dental Association at the Royal Alexandra Hotel, Winnipeg, January 15-16.

Clinical presentations were given by A. E. Kahn of New York whose topic was "The occlusal climate and its relation to restorative dentistry."

The annual meeting of the Manitoba Dental Association took the form of business sessions following the luncheons on January 15 and 16. J. P. Beattie, Winnipeg, was installed as the incoming president. He succeeds A. D. McKee, Dauphin.

A social highlight of the meeting was the president's banquet and dance where the son and daughter of retiring President and Mrs. McKee were featured entertainers.

Manitoba Denture Clinic Reports Progress

The Manitoba Denture Clinic, a non-profit organization sponsored by the Manitoba Dental Association to bring low cost den-

ture service to the public, has had another successful year during 1964. Personnel has been increased by an additional dentist and a second dental laboratory technician. During the year, the chairman of the clinic board of directors presented a brief to the provincial legislature's special committee on dental services. This brief described the Manitoba Denture Clinic and expressed the view that the clinic could meet the needs of marginal income recipients who do not qualify for social assistance and who cannot meet the cost of dental care from their own resources. Until the legislature clarifies the present position with regard to dentists, legal dental technicians and denturists, there is no intention of expanding the clinic's services beyond those now being supplied, the brief explained.

Lipkind Addresses Edmonton Dentists

Possible trends in the future provision of dental care were outlined when M. J. Lipkind of Calgary, president of the Alberta Dental Association, addressed the Edmonton and District Dental Society on January 12. Dr. Lipkind described the difficulty of meeting the demands from patients who do not qualify as social assistance recipients but who encounter difficulty in meeting the cost of dental care from personal resources. Greater use of auxiliary personnel and better patient education are part of the answer, he maintained.

Society members also heard an address by M. W. Packer, newly appointed head of the Department of Periodontics at the University of Alberta. Dr. Packer's topic was "Current concepts in periodontics."

B.C. Dentists Elected to School Boards

In recent civic elections in British Columbia, T. G. Parsons won a seat on the New Westminster Board of School Trustees. W. J. Aitken of Prince George was re-elected to a similar office, and V. W. H. Inkster was re-elected school trustee by acclamation. N. L. Crabtree of Chilliwack and C. J. Liebe of Mission were also

successful in winning seats on their respective school boards.

Midwinter Clinic Held in Vancouver

The first day-and-a-half-long Midwinter Clinic of the Vancouver and District Dental Society, January 22-23, featured illustrated lectures by Grant Overby of Tacoma on "Rehabilitation of the Periodontically Involved Mouth." Sixty clinicians presented chair and table clinics on the two days, and seminar groups were conducted by Drs. Overby, R. Lombardi and G. Newton.

At the dinner meeting 25 past presidents were honoured. J. S. Bricker, who was president in 1921, received a gift for being the oldest living past president. Speaking at the luncheon meeting, President H. G. Pettapiece of the British Columbia Dental Association advocated drastic changes in the dental organizations of British Columbia, similar to the recommendations advanced in the 1963 Woods-Gordon report for dental organization in Ontario. At this meeting members of the first class of dental students at the University of British Columbia were honoured guests.

Regional Conventions

Ontario Convention Slated for May 16-19

The 98th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, May 16-19. The following clinicians and speakers will participate:

FEATURED CLINICIANS

W. J. Updegrave, Philadelphia: Radiology
V. B. Sorensen, Chicago: Oral surgery
Capt. F. J. Kratochvil, Bethesda, Maryland:
Partial prosthodontics
R. A. McEwen, Atlanta: Fixed prosthesis
M. M. Cohen, Boston: Paedodontics

BREAKFAST SPEAKER

C. O. Strachan, London, Ontario: Royal Commission on Health Services

LUNCHEON SPEAKERS

Margaret Nix, formerly of the Department of

Social Medicine, McGill University, Montreal

J. B. Macdonald, president of the University of British Columbia, Vancouver

E. E. Johns, Kingston, president of the Ontario Dental Association

Also featured will be projected clinics, table clinics, essays, scientific motion pictures, breakfast seminars, a dinner dance and class reunions. Further information may be obtained from the secretary, Ontario Dental Association, 230 St. George Street, Toronto 5, Ontario.

Ontario Chapter, Canadian Society of Dentistry for Children, Meets May 15

The following program for the meeting of the Ontario Chapter, Canadian Society of Dentistry for Children, to be held in the Royal York Hotel, Toronto, Saturday, May 15, has been announced:

ESSAYISTS

M. A. Listgarten, Toronto: Recognition and evaluation of periodontal problems in children

J. W. M. Bradey, Guelph: Practical approach to the treatment of traumatized teeth

Gunnar Lie, Weston: Serial extraction management

G. A. Morgan, Toronto: Radiology as an aid in paedodontic surgical problems

LUNCHEON SPEAKER

Controller William Dennison, Toronto: Psychological speech defects in children

The Ontario Chapter, C.S.D.C., meets on the Saturday preceding the annual convention of the Ontario Dental Association. Further information may be obtained from G. K. Clarke, 2069 Gore Street, Burlington, Ontario.

Western Canada Convention Program Set

The Western Canada Dental Society will hold its biennial convention at the famous Banff Springs Hotel, Banff, Alberta, June 16-19. G. C. Swann, Calgary, has announced the following program features:

ESSAYISTS

Robert Gorlin, University of Minnesota: Oral pathology and dental pharmacology

Herbert Bartlestone, Columbia University:
Restorative dentistry

LIMITED ATTENDANCE CLINICS

University of Alberta staff
University of Manitoba staff
Specialists and general practitioners

SYMPOSIUM

Prepaid dental plans

A comprehensive program of social activities, including entertainment and ladies' functions, has also been planned.

Accommodation will be allotted at the Banff Springs Hotel according to the order of receipt of the registration fee (\$50) made payable to the Western Canada Dental Society at par. Special hotel convention rates (American Plan) are available at \$20.50 per day single and \$17.50 per day per person when two persons occupy a room. Requests for advance registration should be addressed to D. N. Allen, accommodation chairman, 307 Rideau Medical Dental Centre, Calgary, Alberta.

For further information write to J. C. Waddell, convention chairman, 56 Academy Medical Building, Calgary, Alberta.

Northwest Paedodontic Group Meets in Banff

Banff, Alberta will be the venue for the tenth annual convention of the Pacific Northwest Conference of the Canadian Society of Dentistry for Children and the American Society of Dentistry for Children, June 14-16. This meeting, which precedes the Western Canada Dental Society convention, June 16-19, also in Banff, will be held at the Banff Springs Hotel. Featured essayists include R. D. Haryett, Edmonton, who will discuss orthodontics for the general practitioner; and S. Gelmon, who will speak on dentistry for handicapped children.

Atlantic Convention Slated for St. John's

Dentists from various points in eastern Canada and further afield are expected to converge on St. John's, Newfoundland, for the Atlantic Provinces Dental Association convention, August 12-14. The site

of the meeting will be the Newfoundland Hotel. Further information may be obtained from W. J. O'Driscoll, Churchill Square, St. John's, Newfoundland.

Royal Canadian Dental Corps

Brig. Baird Attends Dental Meetings

Brig. K. M. Baird attended discussions of the Council on Education of the Massachusetts Dental Society, Boston, January 19 to 21, where he presented a paper concerning employment of auxiliary dental personnel in the Royal Canadian Dental Corps.

At a meeting of the Auxiliary Services Committee of the Canadian Dental Association held in Toronto, January 22, Brig. Baird presented a report on the results of current R.C.D.C. studies pertaining to the effective use of dental auxiliary personnel.

Changes in Location

The following dental officers were moved during January:

Capt. Y. Kamachi from Royal Canadian School of Mechanical Engineers, Vedder Crossing, British Columbia, to No. 35 Field Dental Unit, No. 1 Air Division, R.C.A.F., Europe; and

Capt. D. R. O'Hara from R.C.A.F. Station, Rockcliffe, to No. 4 Field Dental Company in Germany.

Economics

Dentists 35 to 39 Highest Earners

Preliminary analyses of the returns of the latest Survey of Dental Practice conducted by the Bureau of Economic Research indicate that, of all dentists in full-time practice in 1963, those between the ages of 35 and 39 years earned the most. Net incomes increased until dentists reached this age cohort and decreased steadily after the age of 40. The figures (subject to revision) by age groups are: 25-29 years \$12,515, 30-34 years \$16,611,

35-39 years \$18,044, 40-44 years \$17,111, 45-49 years \$16,095, 50-54 years \$15,821, 55-59 years \$12,862, 60-64 years \$12,508, 65-69 years \$9,984, 70-74 years \$8,739, 75 and over \$6,438.

Publication of results of this survey will be undertaken as soon as possible. It is expected that the report will be made available in several chapters in order to avoid delaying it until all figures have been analyzed.

Public Health

Connor Named F.D.I. Adviser

At the 52nd annual session of the Fédération Dentaire Internationale in San Francisco last November, R. A. Connor, chief of the Dental Health Division of the Department of National Health and Welfare, Ottawa, was appointed an adviser to the F.D.I. Commission on Dental Public Health Services. The appointment runs for three years.

Fluoridation

Ottawa Votes for Fluoridation

Most newsworthy among recent fluoridation plebiscite victories was that of Canada's capital, Ottawa. Reversing a close negative decision two years ago, Ottawa voters in December approved fluoridation 58,234 to 36,079. Two other Ontario cities which turned down fluoridation two years ago also approved the measure in recent plebiscites. St. Thomas voted 3,792-3,055 in favour. The Belleville result was 2,498-1,726 for fluoridation.

A recount of the October cliffhanger at Edmonton showed 65.2 per cent of the voters in favour of fluoridation, just short of the two-thirds majority required by Alberta law. Also in Alberta, the required majority for fluoridation was reached in Claresholm, Bowden, White Court, and Bashaw.

In British Columbia votes, communities endorsing fluoridation were Chapman Camp 140-59; Golden 214-104; Marysville 199-89; North Kamloops 758-409; Tenace 1064-191; Kimberley 825-411; and Port Moody 701-227. The majority, but not the required 60 per cent, approved fluoridation at Duncan 413-278 and North Cowichan 671-488. Fluoridation failed to receive majority support in six communities, including Penticton, where the provincial health minister Martin had criticized involvement of the South Okanagan health unit officers in the campaign.

Research

Dominion Council on Health Gets New Dental Research Subcommittee

The Department of National Health and Welfare has announced the creation of a new research subcommittee on dentistry to provide closer attention to the needs of dental public health research and to review proposed projects for which federal public health research grant assistance is requested. The new five member subcommittee has for its chairman R. A. Connor, chief of the Dental Health Division, Department of National Health and Welfare. The subcommittee will report to the Public Health Research Advisory Committee of the Dominion Council of Health.

Awards and Honours

Ruth Vann of Rochester, New York, was recently inducted as a fellow of the American College of Dentists. A 1923 graduate of Toronto's Royal College of Dental Surgeons of Ontario, Dr. Vann is principal of the Eastman Dental Dispensary school for dental hygienists.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Critical of January Editorial

To the Editor:

I read your editorial (Storm Warning) in the January Journal five times in an attempt to understand the point you are trying to make. Is it alleged that our public image is tarnished? Well, it is my experience that at least it is better than it was 10 years ago. Perhaps you felt that professional fees were too high? Yet the relative income of the profession has not significantly advanced since 1955 despite increased productivity.

This editorial was typical of the vagaries pouring out of the C.D.A. in the last few years. Personally, I and most of my colleagues feel that the C.D.A. is an impotent group of tired men who give unqualified statements to the press and to politicians about the advisability of a medicare plan, or who discuss among themselves who will be the next secretary. The backbone of the profession will always be the private practitioner. We must have a voice in the C.D.A. As it is now, we don't even have a vote. Nor are there any elected representatives. Right now there is a movement in the Montreal Dental Club to recommend to the College of Dental Surgeons of the Province of Quebec that we disassociate ourselves from the C.D.A. completely. This, I assure you, is not an act of separatism but a real position of censure of the C.D.A.'s policy and conduct of affairs.

The most flagrant abuse was the recent selection of a secretary. C.D.A. policy statements concerning proration, fee schedules, and dental service corporations are not backed by the profession at large. Personally, I don't know of any activity of the C.D.A. which has been creditable.

We need a central organization badly, but it must be representative. It must not be controlled by salaried dentists—either teachers or public servants. The headquarters must be in Ottawa where effective lobbying with the federal government can be practised. We don't want admonitions. We want action by this body. Every issue of the Journal should print points of view on these and all controversies in our profession, rather than avoiding or paying lip service to them. Oral Health has had a positive policy on this subject. How about you?

W. F. Shaw, D.D.S.,
Hudson Heights, P. Quebec

The Canadian Dental Association is basically a creature of its corporate members. The position of the national association is clearly reflected by the recent selection of its new secretary. This appointment climaxed a search conducted over a period of several years in consultation with the corporate members. The latter, in turn, are composed of individual licensed dentists who alone determine whether their representatives to the C.D.A. shall be elected or appointed. If, as Dr. Shaw implies, C.D.A. policies do not reflect the views of the profession, it can only be because some corporate members select rather than elect their representatives to the national association. Individual members who are dissatisfied with existing arrangements should voice their concern to the governing body of the corporate member within whose jurisdiction they practise. Appropriate action must ensue, as it already has in a certain province, in response to activity of this kind. On the other hand, separation of a local dental group from the national association and a threatened retreat into limbo is unlikely to benefit anyone.

(Ed.)

Likes January Editorial

To the Editor:

I am not in the habit of writing to people on the slightest pretext but I do feel moved to write and congratulate you on your editorial entitled, "Storm Warning" in the January Journal.

You have expressed so well in a forthright and courageous way what so many of us feel. It is high time these things were said and I only hope you do not get too much of the backlash from the blind adherents.

J. A. Pedler,
Professor and head,
Department of Oral Diagnosis,
University of Toronto.

The Principles and Practice of Oral Dynamics

T. H. Forde. New York, Exposition Press Inc., 1964. 293 p. Illus. \$25.00

This book describes in detail how to cope effectively with non-systemic mouth degeneration, which the author claims to be one of the most critical dental problems of our time.

The book provides 20 case histories in which the basic theories and principles of oral dynamics are related to clinical problems. It includes special sections on bite correction, orthodontics, prosthodontics and periodontics, with the two-dimensional plan of balance, rather than bilateral balance, as the goal in each case.

It describes a study of the mouth functioning against resistance from age 12 on through life, and contrasts the health maintained in primitive mouths with the unhealthy changes that take place in contemporary mouths. It shows how, through lack of wear of certain cusps in teeth of contemporary man, occlusal forces are directed obliquely, causing an actual movement of the teeth in the arch, and gradual degeneration of supporting tissues.

By means of line drawings keyed to the text, the author details the technique used in each case to achieve a satisfactory conclusion.

The book is one from which all dentists would benefit. It is clear and explicit and explains exactly how to put into practice the theories which are described so thoroughly.

R. B. Cameron

Current Therapy in Dentistry

H. M. Goldman, S. P. Forrest, D. L. Byrd and R. E. McDonald. Volume I. St. Louis, C. V. Mosby Company, 1964. 752 p. Illus. \$18.00

This volume contains a wealth of material for the general practitioner who wishes to keep abreast of developments in all clinical areas of practice. The book is useful to the dentist who has been in practice a few years and who wishes a general review. It can also aid the dentist who encounters problems in day to day practice. By applying the results of recent research, the book provides answers to many familiar problems of diagnosis or treatment.

There are 33 chapters, each by a different author, all but two with teaching appointments at North American universities. This

gives a broad but up to date summary of modern dentistry in the western hemisphere. The contributions are grouped into four sections for ready reference: oral medicine, restorative dentistry, oral surgery, and paedodontics and orthodontics. Of particular interest is a chapter on dental care for the handicapped child. Photographs in black and white are abundant and of excellent quality.

This volume is the first of a series. Succeeding volumes will cover additional topics which, understandably, one volume cannot encompass. The book is recommended by this reviewer as a sound addition to the library of any general practitioner.

D. C. Deedrick

Clinical Periodontology

Irving Glickman. Ed. 3. Philadelphia and London, W. B. Saunders Co. (Available from McAinsh & Co. Limited, Toronto) 902 p. Illus. \$22.70

Although new editions are usually thicker than their predecessors, this third edition of Glickman's *Clinical Periodontology* has been successfully pruned of over 70 pages. The text is nevertheless profusely illustrated with photographs, excellent drawings, radiographs and three full-page colour plates.

Many chapters show evidence of major overhaul. The chapter on calculus includes most of the new work on this subject. The chapter on periodontal-prosthetic interrelationships should be read and put into practice by all general practitioners. Newer mucogingival surgical procedures — the 'push back,' the split flap and the apically repositioned flap — are described in detail.

Dr. Glickman is a conservative with respect to bone surgery. Most periodontists agree that the three-walled infrabony pocket needs little bone contouring. On the other hand most periodontists agree that the one-walled infrabony pocket must have its bony wall trimmed to conform to adjacent bone topography. Dr. Glickman agrees that the one-walled infrabony pocket should be contoured at the initial operation. Two-walled and two and a half-walled infrabony pockets, he believes, should be carefully cleaned, their cause eliminated, and then allowed to fill in naturally. "If after six to nine months the osseous defect is not sufficiently repaired . . . the area is exposed again and the bone is remodelled [surgically]." This conservative approach offers an opportunity

for self-repair. A second operation may be performed later, if necessary. This reviewer agrees with these views.

Elsewhere (on p. 551) Dr. Glickman expresses more radical views when he contends that "the operator should not experiment with scaling and curettage to determine whether the patient requires gingivectomy. . . . The patient should not have to submit to two operations to accomplish a result that could have been obtained with one." Why is Dr. Glickman's philosophy different in this case? Why is there no place for preliminary scaling and curettage in the many cases of moderate periodontal disease? Surely this also offers a chance for self-repair and remodelling. Again, there remains the opportunity for performing gingivectomy six to nine months later, if this is necessary. If the principle of conservative treatment is valid in one situation, it should be equally valid in the other.

On page 643 Dr. Glickman refers to Box's paraffin pack which preceded the currently used fibrous displacement pack, also developed by Box. This reference should be up-dated as described by McIntosh (J. Canad. D.A. 13:268, 1947).

Each chapter concludes with a comprehensive list of references. Consequently, this fine book is a valuable acquisition for any general practitioner or student. It has sufficient depth and reference material to fit most undergraduate, graduate and post-graduate teaching programs. The book is an excellent and thorough piece of work for which Dr. Glickman deserves commendation.

J. E. Speck

Oral Histology

D. V. Provenza. Philadelphia and Montreal, J. B. Lippincott Company, 1964. 548 p. Illus. \$15.00

The author defends the need for a new oral histology text because there are enough slightly altered and revised editions of older textbooks to justify making a fresh start. Newer and more sophisticated research techniques, such as electron microscopy, diffraction, histochemistry, isotope tracers and microradiography, have resulted not only in a closer insight into the cellular structures but also a greater understanding of the working properties of the cell constituents and their biological influence. These advances, Dr. Provenza feels, warrant reorgan-

ization of the subject matter to emphasize the living mechanism of the cell and its association with heredity and with developmental factors. He also advocates an improved presentation of the subject matter. This is demonstrated by repetition of important elements and by periodic reference to biological principles previously encountered in the book.

Oral Histology consists of four parts, any one of which may be used independently. The separate parts are nonetheless complementary. Each part therefore adds interest to the others. Inheritance and development are dealt with in the first section. This provides an interesting and important background for students and practitioners who lack a solid grounding in genetics and embryology. Parts 2 and 3 are devoted to histology of the teeth and associated structures. The final short section deals with histochemistry.

This carefully and well written book is beautifully illustrated. It goes into considerable detail without detracting from its simplicity of presentation. There is much that will appeal to undergraduate as well as graduate students, and much that will recommend it as a textbook for teaching centres.

G. D. Armstrong

Accepted Dental Remedies, 1965

American Dental Association. Council on Dental Therapeutics. Ed. 30. Chicago, American Dental Association, October 1964. 253 p. \$3.00

The current issue of *Accepted Dental Remedies* differs from its predecessors in that it has been reorganized to facilitate its use by dentists and dental students. The book is divided into three sections. Section 1, entitled General Principles of Medication, emphasizes the dental significance of drugs that are frequently administered in general practice and drugs that are used in the treatment of emergencies, in written prescriptions, for sterilization or disinfection of instruments, or as dietary supplements for the improvement of dental health. This section alone makes acquisition of the book worthwhile. The second and third sections are devoted to therapeutic agents and aids. The various drugs are evaluated according to their usefulness for the purpose desired. No other publication provides this information.

Clifford Reynolds

ORAL CANCER

from an international point of view

J. J. Pindborg, Copenhagen, Denmark*

Various ways of determining the frequency of oral cancer are described. These reveal an extremely high frequency of this disease in south-east Asia. There are sharp geographic variations in the frequency of oral cancer at specific sites. A decrease in oral cancer frequency, especially among men, has been observed in certain countries. The aetiological factors in oral cancer development are discussed under two headings: predisposing conditions (leucoplakia, erythroplakia, oral submucous fibrosis, multiple carcinomas) and eliciting factors (tobacco, alcohol, oral mechanical irritants). Intensified research, especially in south-east Asia, may contribute to a better understanding of the pathogenesis of oral cancer.

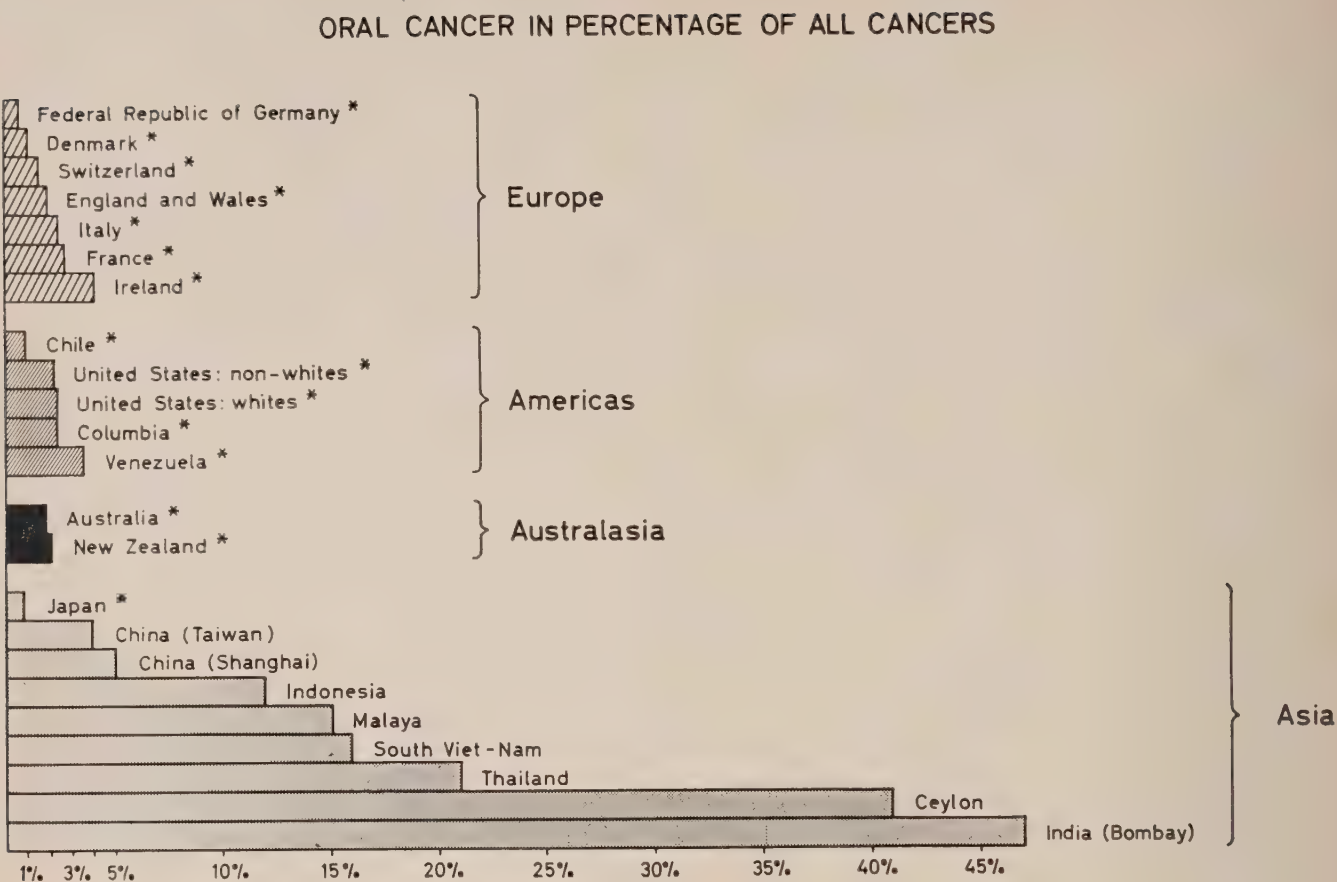
Cet article décrit diverses façons de déterminer l'incidence du cancer buccal. On se rend compte ainsi que cette maladie se rencontre fréquemment dans le sud-est de l'Asie. Il y a une grande diversité dans l'incidence du cancer de la bouche selon la géographie. Dans certains pays, on note que ce cancer se rencontre moins fréquemment, surtout chez les hommes. Deux parties de cet article énumèrent les facteurs étiologiques du cancer de la bouche: facteurs prédisposants (leucémie, érythroplasie, fibrose sous-muqueuse, carcinomes multiples) et les facteurs déterminants (tabac, alcool, irritants mécaniques). Des recherches considérables entreprises tout particulièrement dans le sud-est de l'Asie peuvent contribuer à une meilleure compréhension de la pathogénèse du cancer buccal.

Cancer is a global problem. Nevertheless, there are astonishing geographic varia-

tions in the prevalence of cancer at specific anatomical sites. This paper describes geographic variations of oral cancer and demonstrates that valuable information about the aetiology of oral cancer may flow from an analysis of ethnic and en-

Presented as the third Harold Keith Box Memorial Lecture at the Faculty of Dentistry, University of Toronto, October 26, 1964.

*Professor of oral pathology, Royal Dental College, Copenhagen.



* Figures from "Epidemiological and Vital Statistics Report" 1962

FIGURE 1 Relative frequency of oral cancer in various parts of the world.

vironmental backgrounds. The most interesting oral neoplasm, from a geographic point of view, the so-called Burkitt's tumour,¹ is omitted from this paper because jaw tumours are excluded.

FREQUENCY OF ORAL CANCER

Various means of expressing oral cancer frequency have been previously described.² The ideal procedure is to give the morbidity rate per 100,000 population. But such an estimate cannot be determined in the majority of countries. The frequency of oral cancer is therefore expressed as a percentage of the frequency of all cancers. Admittedly, this relative frequency does not produce uniform results since the total number of known cancer cases may stem from population units of varying size. These embrace (1) the total population (through cancer registries, (2) cancer hospitals, (3) departments of pathology, or (4) departments of surgery.

Much information is available in the malignant neoplasm tables of the *Epidemiological and Vital Statistics Report* published by the World Health Organization. Figure 1 shows the relative frequency of oral cancer. This is based on WHO tables for 1962 and data from certain Asian countries described by Pindborg in 1964.³ The difference between western countries and the countries in south-east Asia is striking. In India and Ceylon oral cancer is the commonest of all cancers.

SITE OF ORAL CANCER

Table 1 also reveals sharp geographic variations in the frequency of oral cancers at specific sites. In some parts of India and in Ceylon the greatest numbers of oral cancers are found in the cheek, whereas in Bombay a majority are located on the tongue. In western countries the vermilion border of the lip is most often affected. Unfortunately, such site fre-

TABLE 1 Percentage distribution of oral cancer at various sites in eastern and western countries.

Author	Year	Area	Patients with oral cancer	Buccal sulcus	Tongue	Lip	Palate	Floor of mouth	Gingiva (alveolar ridge)
Miglani and Sidiq (1964) ⁴	1950-59	Cancer Unit, General Hospital, Madras	6,598	64	19	5	6		6
Wahi et al (1963) ⁵	1956-62	Agra Uttar Pradesh	1,473	55	29	3	6		7
Cooray ⁶	1944	Ceylon	272	48	17	13	6		16
Ash ⁷	1962	Canada	1,944	21	39	*	7	11	22
Castigliano ⁸	1961	U.S.A.	2,185	13	25	26	10	11	15

*Not included.

TABLE 2 Investigations revealing changes in the frequency of oral cancer.

Author	Country	Years compared	Changes in frequency
Bhansali ¹³	England	1936-45 vs. 1946-55	M: 49% decrease F: 16% increase
Dalitsch and Vazirani ¹²	U.S.A.	1943-47 vs. 1953-57	M: 19% decrease F: 15% increase
Freudenberg ⁹	West Germany*	1936 vs. 1956	M: 50% decrease F: 33% decrease
Horak ¹⁴	Australia	1934 vs. 1961	M: 66% decrease in mortality
Phillips ¹⁵	Canada	1941 vs. 1957	M: 38% decrease in mortality F: no change
Russell ¹⁶	England	1935-39 vs. 1945-49	M: 40% decrease in morbidity rate F: 30% increase in morbidity rate
Wood ¹⁷	England	1942 vs. 1952	M + F: 31% decrease in mortality

*Includes oral cavity, pharynx and oesophagus.

quency comparisons lack precision on account of the varying terminologies and classifications employed by different investigators. Thus, gingiva invariably includes the mucous membrane covering the alveolar process and the free gingiva, though the two ought to be separated. Likewise, the buccal mucosa includes the cheek mucosa proper, the buccal sulci, the retromolar area, and the labial commissure. In future oral cancer investigations the site of occurrence should be more clearly differentiated.

DECREASE IN ORAL CANCER FREQUENCY

An overall tendency toward decreased frequency of oral cancer has been observed in recent years. Increases of a

lesser order have been noted at certain sites. Table 2 summarizes these observations. The decrease is marked in men, whereas in women there is an increase or no change. Freudenberg's figures also include cancers of the oesophagus and should therefore be treated with reservations.⁹ Besides the countries mentioned in Table 2, Norway and Australia (Victoria) have also witnessed a clear-cut decrease in the frequency of oral cancer since 1929.^{10,11}

Several explanations are offered for the decrease in oral cancer frequency among men. The standard of oral hygiene has improved in recent years, reducing the numbers of jagged teeth and ill-fitting dentures and eliminating traumatic conditions that play a possible role in the development of cancer. Furthermore, a

decrease in the frequency of syphilitic glossitis, plus early diagnosis, and improved surgical techniques may also have contributed to the decrease in oral cancer mortality. However, it would be very informative to compare mortality rates with morbidity rates for the same period in the same country.

The increased frequency of oral cancer in women, observed in some of the investigations, has been attributed to increasing use of tobacco.¹²

Table 2 further reveals that a shift in sex distribution of oral cancer has occurred. This was also emphasized by Ash,⁷ who reported that in carcinoma of the tongue, the male-female ratio dropped from 4:1 during the period 1929-38 to 2:1 for the years 1949-58.

PREDISPOSING CONDITIONS

It is possible to distinguish between predisposing conditions and eliciting factors, although a complete separation is not always possible. Sometimes the eliciting factors may also give rise to predisposing condition.

Leucoplakia.—This has long been recognized as an important precancerous condition of the oral cavity. However, exact figures for the rate of malignant transformation of leucoplakias are scarce. Table 3 summarizes our present knowledge in this field. The range is extensive and no one knows what the real figure is. Unfortunately, the authors quoted in Table 3 have not defined the term leucoplakia. Therefore we do not know whether their observations are based on uniform

clinical material. Recently, Strickland in England estimated that only one per cent of all leucoplakic patients finally develop carcinoma.¹⁸ Long term follow-up studies on larger numbers of patients are necessary before definite conclusions can be reached. Recent studies suggest that leucoplakias presenting a picture of white, nodular patches intermingled with erythematous areas (a speckled appearance) are often associated with premalignant or malignant features.¹⁹

The frequency of oral leucoplakia in the average population is not known. Bruszt examined 5,613 individuals in rural districts of Hungary and found 3.6 per cent with leucoplakia.²⁰ Preliminary results of epidemiological studies among patients seeking admission to clinics in dental colleges in three cities of India are shown in Table 4. The similarity between the Indian and Hungarian findings is noteworthy. Aetiology of leucoplakia is discussed, in part, under eliciting factors.

Erythroplakia.—Also known as Bowen's disease, erythroplakia is a rare condition. Unlike leucoplakia, it is always precancerous when found in the oral cavity. The epithelium is the seat of an atrophy and exhibits varying degrees of cellular atypia.

Oral Submucous Fibrosis.—This is an oral condition reported mainly among Indians and described by Joshi in 1953.²¹ It is a chronic disease, clinically characterized by blanching of the oral mucosa and often accompanied by stiffness of the mucosa. Sometimes vesicle formation also occurs.

TABLE 3 Rate of malignant transformation in oral leucoplakias observed over an extended time period.¹⁹

Author	Country	Year	Number of patients observed	Rate of Malignant Transformation	Observation period
Skach, Svoboda and Kubat	Poland	1960	71	1.4%	3-6 yrs.
Sugar and Banoczy	Hungary	1959	86	6 %	11 yrs.
Sturgis and Lund	U.S.A.	1934	298	12 %	5 yrs.
Leonardelli and Talamazzi	Italy	1950	268	20 %	1 month-15 yrs.
Weisberger	U.S.A.	1957	22	36 %	4 yrs.

In severe cases patients have marked difficulties in chewing, swallowing, and speaking. Most affected patients exhibit a pronounced atrophy of the tongue papillae.²²

At the Tata Memorial Hospital in Bombay Paymaster has described the development of a slow-growing squamous cell carcinoma in one-third of his patients with submucous fibrosis.²³ Other observations by Sirsat and Khanolkar, also of Bombay, do not, however, support Paymaster's findings.²⁴ Sirsat and Khanolkar attribute submucous fibrosis to an irritating effect of chilli.

Epidemiological surveys in India have revealed that the frequency of submucous fibrosis varies from 0.3 to 0.9 per cent (Table 5).²⁵ The same investigations also showed that patients with submucous fibrosis had more leucoplakias and carcinomas than those without submucous fibrosis. The precancerous nature of submucous fibrosis was further demonstrated in 100 patients with oral cancer of whom 40 suffered from submucous fibrosis. Histological investigations have shown that submucous fibrosis leads to a marked atrophy of the oral epithelium, thus making the epithelium more vulnerable to carcinogenic agents.²⁶

Liver Cirrhosis.—In 1958 Trieiger et al reported that 44 per cent of 108 patients with tongue cancer had overt hepatic cirrhosis.²⁷ In Argentina Pilheu and Celsi found nine patients with definite liver changes among 17 patients with oral cancer.²⁸ The latest contribution is from the United States where Keller has demonstrated a pronounced association between cancer of the floor of the mouth and cirrhosis of the liver.²⁹ Further investigations are desirable to determine a possible aetiological relationship between oral cancer and liver cirrhosis.

Multiple Carcinomas.—The occurrence of multiple or multicentric carcinomas in the oral cavity points to an unknown, underlying precancerous condition. It is well known that patients with sideropoenic dysphagia (Plummer-Vinson's syndrome) tend to develop multiple cancers in the oral cavity. This is one of the explana-

TABLE 4 Frequency of oral leucoplakia in various localities in India.

Locality	Number examined	Percentage with leucoplakia
Lucknow (Uttar Pradesh)	10,000	3.3
Bombay (Maharashtra)	10,000	2.8
Bangalore (Mysore)	5,612	1.6
Trivandrum (Kerala)	2,000	1.1

TABLE 5 Frequency of submucous fibrosis in different localities in India.

Locality	Number examined	Percentage with submucous fibrosis
Lucknow (Uttar Pradesh)	10,000	0.51
Bombay (Maharashtra)	10,000	0.50
Bangalore (Mysore)	5,612	0.30
Trivandrum (Kerala)	2,000	0.95

tions for the rather high frequency of oral cancer among Scandinavian women. The oral epithelium in patients with sideropoenic dysphagia is atrophic. Moertel and Foss at the Mayo Clinic found that 8.7 per cent of 732 patients with oral cancer had multicentric carcinomas.³⁰ Sharp et al reviewed 275 consecutive cases of oral carcinoma and found that 10 per cent had multiple lesions.³¹ Renstrup has reported one patient with eight foci of cancer or precancerous changes.³² Evidence that 8-10 per cent of the patients with oral cancer present multicentric lesions suggests that an underlying (systemic?) factor may predispose the oral epithelium toward development of cancer.

ELICITING FACTORS

Tobacco.—This factor is most often associated with the development of oral cancer. In western countries the predominant modes of smoking are cigarette, cigar and pipe smoking. One of the most detailed studies of a possible relationship between smoking and oral cancer was reported by Wynder et al in 1957.³³ They found that only three per cent of 543 men with oral cancer were non-smokers, whereas in a control group free of oral cancer

10 per cent of the subjects were non-smokers. Cigar and pipe smoking increased the risk of cancer of the oral cavity more than did cigarette smoking.

In other parts of the world different smoking customs prevail. In India the most frequent form of smoking is bidi-smoking. Bidi is a cheap cigarette. It is made by rolling between the fingers a rectangular dried piece of Temburni (*Diospyros melanoxylon*), also called Tendu leaf, with 0.30 to 0.36 Gm. of Saurashtra tobacco (from the State of Gujarat) or Nipani tobacco (from the State of Mysore). This is then tied with thread. Each bidi is 6 to 7.5 cm. long. Among 10,000 individuals of all ages examined in Lucknow, 12 per cent smoked bidis, either alone or in combination with other smoking and/or chewing habits. Nineteen per cent of these bidi smokers had leucoplakia. There is evidence that heavy bidi smoking enhances the risk of developing cancer of the posterior part of the tongue and pharynx.^{5,34,35}

In some parts of the world (Panama, Venezuela, Sardinia, east coast of India) many women smoke rolled tobacco leaves or small cigars with the lit end placed in the mouth and held against the palate.³⁶ In these places the incidence of palatal carcinomas is very high due to this habit.

The habit of placing snuff in the oral cavity is also observed in certain countries. In one area of the United States where snuff-dipping is prevalent, a greater proportion of women suffered from squamous cell carcinoma of the gingivo-buccal fold than in other parts of the country where the use of snuff is less endemic.³⁷ Ninety per cent of female patients with carcinoma arising from the gingivo-buccal fold were habitual users of snuff. On the other hand only 22 per cent of patients with carcinoma of tongue and floor of the mouth were users of snuff.

Peacock et al question whether snuff is a potent carcinogen.³⁸ Although snuff is related to the production of leucoplakia, they believe it is not related to the development of oral cancer, except in elderly patients of low economic circumstance. Pindborg and Renstrup likewise were unable to demonstrate premalignant

changes in leucoplakic epithelium from patients who used snuff daily for 20 to 50 years.³⁹ These different opinions may be explained on the basis of differences in the composition of snuff and variations in nutritional status in different parts of the world.

In south-east Asia the predominant habit is the chewing of tobacco and/or betel leaf and betel nut. The chewing of tobacco, either alone or in combination with betel nuts and betel leaves, is definitely responsible for oral cancer development.⁴⁰⁻⁴² Yet why does only a small fraction of tobacco chewers develop cancer? Firstly, because the pathogenicity of tobacco chewing depends upon the length of time during which the tobacco is kept in the mouth. Secondly, because the condition of the epithelium also plays an important role. Earlier, it was stated that submucous fibrosis is associated with marked atrophy of the oral epithelium. Obviously an atrophic epithelium is more vulnerable to the influence of tobacco quids of long standing than is a normal epithelium.

Alcohol.—Another important factor in oral cancer development is heavy alcohol consumption. Wynder et al have calculated that heavy drinkers (more than six ounces per day of whisky or other types of alcohol) are 10 times more susceptible to oral cancer than "minimal alcohol" drinkers.³³ A recent French statistical analysis shows an association between alcohol intake and cancer of the tongue, hypopharynx, larynx, oesophagus and, probably, of the oral cavity and oropharynx.⁴³ In South Vietnam Nguyen-Huy-Can et al have attributed aetiological significance to the strong rice-alcohol used in that country.⁴⁴ It is very intriguing whether alcohol acts as a direct eliciting factor or whether its influence is mediated through a liver cirrhosis.

Oral Mechanical Irritants.—The role of oral irritants as possible eliciting factors in oral carcinogenesis is controversial. Perhaps one may unite opposing concepts by assuming that local mechanical irritants act only under certain circumstances. Although in Denmark I have never been impressed by the significance of oral

irritants, I am convinced that in south-east Asia they are important. Balendra has emphasized that attrition caused by betel nut chewing is significant in oral cancer development.⁴⁵ Predisposing conditions like leucoplakia, submucous fibrosis, and liver cirrhosis may prepare the ground for the action of local irritants.

INTERNATIONAL ACTION

Though oral cancer is a global problem, among the 700 million people of south-east Asia it is a much greater problem than in western countries. As a consequence the World Health Organization arranged a meeting of investigators in New Delhi in 1963 to discuss the epidemiology and pathology of oropharyngeal tumours. The group recommended establishment of (1) reliable systems of death registration, (2) cancer registries, and (3) further studies of aetiological factors. Furthermore, WHO has established an International Reference Centre for the Histopathological Definition and Classification of Oral and Pharyngeal Tumours. This centre, in Agra, India, is under the direction of Professor P. N. Wahi. The Centre has appointed six co-operating centres at Alma Ata, U.S.S.R.; Boston, U.S.A.; Colombo, Ceylon; Copenhagen, Denmark; Durham, South Africa; and Singapore, Malaysia. Thus, the best possible background has been created for future research in the field of oral cancer.

SUMMARY

Various ways of determining the frequency of oral cancer are described. These reveal an extremely high frequency of this disease in south-east Asia. There are sharp geographic variations in the frequency of oral cancer at specific anatomical sites. A decrease in oral cancer frequency, especially among men, has been observed in some countries. The aetiological factors in oral cancer development are discussed under two headings: predisposing conditions (leucoplakia, erythroplakia, oral submucous fibrosis, multiple carcinomas) and eliciting factors (tobacco, alcohol, oral mechanical irri-

tants). Intensified research, especially in south-east Asia, may contribute to a better understanding of the pathogenesis of oral cancer.

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Universitetsparken 4

Are you going to the C.D.A. National Convention in Quebec this May? If so, don't miss seeing these old French style houses on rue St-Denis.



An assessment of the applications of cytology in malignant disease

Exfoliative cytology can be used (1) to categorize equivocal oral lesions and benign oral lesions that possess a high potential for malignant change. In various body sites cytodagnosis is also used as (2) a cancer screening procedure in asymptomatic individuals, (3) as a diagnostic aid for inaccessible lesions, and (4) for detection of recurrent, residual or multicentric malignant lesions. Oral cancer may be less common than many other types of cancer but it is also more lethal than many malignant lesions. Therefore dentists should promptly investigate any oral lesion by this method.

■

La cytologie exfoliative peut être utilisée (1) pour le classement des

lésions buccales équivoques et des lésions buccales bénignes possédant un haut potentiel d'altération maligne. Le diagnostic cytologique est aussi employé pour (2) passer au crible les individus asymptomatiques, (3) pour aider le diagnostic des lésions indécélables ou inaccessibles, et (4) pour la détection des lésions qui se reproduisent, lésions résiduelles ou lésions malignes à foyers multiples. Le cancer de la cavité buccale est moins répandu que beaucoup d'autres genres de cancers mais il est aussi plus souvent fatal que d'autres lésions malignes. Par conséquent, les dentistes devraient dépister promptement toute lésion buccale par cette méthode.

Recent reports by Sandler,^{1,2} Umiker,³ Silverman,⁴ and others have alerted the dentist to his potential role in the diagnosis of oral cancer. There has been particular emphasis on the dentist's utilization of the cytological smear technique for earlier detection of cancer.

Not many years ago, however, exfoliative cytology was almost synonymous with

gynaecological cytology.⁵ More recently many laboratories, particularly within the larger hospitals, have developed facilities for more diversified application of cytology. In some instances the major sources of material are now non-gynaecological.

The greatly increased volume of material examined cytologically in recent years, the much more widespread provision of facilities for diagnosis, and the ex-

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tended application of cytology to all body sites where there is a need for early diagnosis of cancer provide an opportunity for comprehensive appraisal of the benefits and limitations of cytology.

Readers may therefore appreciate a brief account of our experience with cytology in sites other than the oral cavity. Also mentioned in this context are some of the basic principles of cytology and some commonly encountered misconceptions.

PRACTICAL APPLICATIONS OF CYTOLOGY IN CANCER DETECTION

In general, there are four applications of cytology in cancer detection:

A. As a screening procedure for the detection of cancer in asymptomatic individuals with no grossly visible lesion. This application is based upon the fact that microscopic malignant changes become apparent in epithelial cells some time before there is any grossly detectable change in the epithelium. Borderline or premalignant changes are also detectable in cells which have been exfoliated naturally or removed artificially from grossly normal epithelial membranes.

This type of application is most practical (1) where there is a limited area of tissue which can be adequately sampled and which is readily accessible, such as the uterine cervix; or (2) in a site where there is a very high risk of malignant change, such as the lung in heavy smokers.

The screening procedure is *not* the type of application of cytology which is recommended for the detection of cancer in the oral cavity. Not only is it quite impractical to scrape adequately the entire surface of the oral mucous membranes, but the incidence of malignancy in this site is not high enough to justify a screening approach in patients who have no grossly visible alterations of the mucosa.

B. As a procedure for the more precise categorization of (1) a mucosal lesion which, though grossly apparent, is nevertheless equivocal and where the index of suspicion clinically does not warrant

biopsy; or (2) a lesion which, though apparent and usually benign, is known to possess a high potential for malignant change (e.g. leucoplakia). In the latter instance, if the lesion is diffuse, a cytological smear from the general area may be much more representative than a random biopsy.

The oral cavity is an ideal site of the applications outlined in B (1) and B (2). The great majority of equivocal mucosal lesions examined are, of course, benign. Nevertheless, the total number of such lesions is not excessive and the cytodetection procedure is quite practical under these circumstances. Not only is it practical, but is also a highly desirable procedure when we consider that two-thirds of cases of oral cancer subsequently diagnosed in the more advanced symptomatic and grossly obvious stage are incurable.² The potential advantage of detecting as many cases as possible in the incipient or grossly equivocal phase is obvious; despite the frustration which sometimes ensues from the receipt of negative reports on a series of clinically equivocal lesions.

C. As an aid in the diagnosis of a symptomatic lesion which, though clinically apparent, (1) may not be readily accessible to biopsy (e.g. peripheral lung lesions, gastric lesions, renal lesions, C.N.S. lesions), or (2) may be under appraisal with respect to surgical operability (e.g. whether or not pleural or peritoneal areas are involved).

For any obvious symptomatic and accessible lesion biopsy is the diagnostic procedure which should be employed. Perhaps it is not generally realized that when a malignant lesion is advanced and is ulcerated, there is usually necrosis of the superficial portions, and there is an accumulation of inflammatory material and dried blood on the surface. Under these circumstances a scraping from the surface may be devoid of intact malignant cells for cytodiagnosis.

D. As a procedure for the detection of (1) recurrence of a previously treated malignant lesion; (2) residual malignancy following local therapy (for these two

purposes cytodetection is particularly useful in gynaecological sites, the lung, the urinary tract and also in the oral sites); (3) multicentric malignancy, particularly in the urinary tract.

The type of application which is most practical varies from site to site; so do the results obtained and the problems encountered.^{6,7} It may be useful to summarize such experience according to the various body systems.

Gynaecological Cytology.—The major emphasis in the application of cytology has been on the screening of asymptomatic adult women. The results to date show that about one out of every 200 to 300 adult women examined has an unsuspected malignant lesion of the cervix. A few cases of cancer of the body of the uterus are detected incidentally.

British Columbia has developed a major screening program for detection of cervical cancer. As a result of this program the incidence of invasive cancer among adult females in the B.C. population has declined by more than 40 per cent.⁸ Other programs have shown similar results.

The problems encountered here are those inherent in any screening program, viz. the provision of adequate facilities and the difficulty in attaining universal utilization. Theoretically it is possible to prevent invasive cancer of the cervix almost completely through cytodetection of the abnormality which, when detected, can be treated in the pre-invasive stage.

Respiratory Cytology. — Unfortunately, cytodetection has so far mainly been used as an aid in establishing the diagnosis of symptomatic, clinically and radiologically evident lesions. But the inevitable high mortality in such cases, and the very high risk of lung cancer in specific population segments (e.g. male smokers over 40 years of age) have resulted in greater use of cytology as a screening procedure. The purpose of this development is to detect cancer in the preclinical and radiologically occult stage which, fortunately, is more amenable to surgical treatment. The results are currently under assessment, but cautious optimism seems warranted.

The problems encountered here are those inherent in the investigation of a

relatively inaccessible site. It is difficult to ensure representative sampling even with repetitive sputum samples, and localization of the preclinical lesion after cytodetection is also a problem. However, the encouraging results to date and the obvious magnitude of the problem indicate that the pulmonary area may well be the site where cytology has its widest future application. The potential yield of cases of malignancy at this site outstrips all others. The prognosis of this disease would be considerably altered if the lesions could be routinely detected in the early stages.

Gastro-Intestinal Cytology Excluding the Oral Cavity. — In the upper gastrointestinal tract cytodetection is mainly used as a diagnostic aid in patients with a clinically apparent but radiologically equivocal lesion. The results vary directly with the care taken in sampling.

The problems encountered here relate to the difficulty of obtaining adequate samples and the necessary precautions to ensure that fresh cells are obtained and to prevent the normally rapid degeneration of cells in the acid environment.

Urinary Cytology.—Here cytodetection is mainly used as a diagnostic aid for symptomatic and treated cases. Some screening has been carried out in high risk groups, such as aniline dye workers.

The results are again affected by difficulties in technique related to the problem of rapid degeneration of cells in urine. Also the more common renal cancers do not usually involve the mucosa until very late and hence do not exfoliate cells early. Moreover the lesions which do arise in the mucosa are very well differentiated and are often difficult to detect cytologically.

Body Cavity Fluid Cytology.—The applications here are related mainly to the differentiation of malignant and non-malignant accumulations of fluid in the pleural and peritoneal cavities. The problem of operability in a known neoplastic case is also often solved to some extent by cytological examination.

The results depend very largely on the experience of the cytologist as the cells

encountered in this type of material are more difficult to interpret than those in specimens from most other sites.

Problems again arise from the precautions which are necessary for adequate preservation of cells and from the difficulty of microscopic interpretation.

Other Sites.—Specimens of cerebro-spinal fluid, breast cyst fluid, aspirated material from cysts, aspirated material from lymph nodes, prostatic secretions, and joint fluids may be submitted from time to time for cytological examination. In most instances cytology serves as a diagnostic aid in this connection. The results are variable, depending mainly upon the clinical and cytological techniques employed. The problems are varied, being mainly those of adequacy of sampling and preservation of the cells.

ACCURACY OF CYTODETECTION

The overall accuracy of cytology depends on numerous factors. These include the type of material, adequacy of the samples, occasional physiological variations within the epithelium, presence of interfering materials, sampling techniques employed, degree of care taken by the person obtaining the sample, fixation techniques, staining techniques, care and proficiency within the laboratory, method of communicating results, liaison between clinician and cytologist, as well as the cytologist's experience.

The dental profession is urged to utilize cytology in the investigation of early lesions of the oral mucous membranes.^{2,9,10} Not only have dentists a better opportunity than anyone to notice such lesions, but application of the cytological technique in this part of the body is almost ideal. Oral lesions, though equivocal, are at least visible. The areas involved are readily accessible. The procedure is painless, harmless and inexpensive. Cytological assessment of the submitted material is not difficult, and the difference in prognosis between early and advanced lesions is as great as the difference in therapy

required. As indicated in the foregoing, oral smears are not taken on a mass basis. Therefore any established cytological laboratory should be able to cope readily with a limited volume of oral cytology cases. No special technique is required for processing the smears in the laboratory.

There are minor problems in taking the samples. The watery nature of the saliva results in some lack of cohesion of the samples on the spatula and slides, with occasional consequent scantiness of cellular material in the smears. Also the frequency of keratinization of oral lesions may make some adjustment of the sampling technique necessary when such lesions are encountered.^{9,10}

Oral cancer is less common than many other types; but it is also more lethal than some other cancers, and the treatment of advanced lesions is mutilating. No single dentist will, on a statistical basis, encounter more than a very few oral cancers. Nevertheless, if he is alert to the possibility of detection of the lesion in its earlier stages, and can investigate it cytologically, the benefits will more than justify the minor effort required.

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One year effect of supervised toothbrushing with an acidulated fluoride-phosphate solution

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An acidulated fluoride-phosphate solution used in a supervised toothbrushing drill four or five times over a period of seven months retarded the onset of caries in newly erupted first permanent molars and lower incisors when measured one year after the original examinations. There was no observable effect upon the caries increment of the deciduous dentition. A further report will be made when eight or nine brushings have been completed during two succeeding school years and after a total study period of 24 months.

Une observation contrôlée de quatre ou cinq brossages systématiques des dents, durant sept mois, à l'aide d'une solution acidulée de fluorure de phosphore, a démontré, après une année, que l'apparition de la carie a été retardée dans de jeunes premières molaires permanentes et incisives inférieures. Apparemment ce brossage n'a pas eu d'effet sur la carie dans les dents primaires. Un autre rapport indiquera l'influence de huit ou neuf brossages avec la même solution durant deux années scolaires consécutives, deux ans après le début de cette observation.

The anticariogenic effects of topical applications of sodium fluoride and stannous fluoride solutions have been demonstrated repeatedly.^{1, 2} The single application of an eight per cent solution of stannous fluoride is now a routine procedure in many dental offices.³

Clinical trials of dentifrices incorporating sodium fluoride have not been encouraging, but results obtained by one group of workers with a stannous fluoride denti-

frice suggest greater effectiveness.⁴ Finn and Jamison report a two year study on the supervised use of a monofluorophosphate dentifrice. They claim a statistically significant improvement (25 per cent) by comparison with a dentifrice incorporating stannous fluoride and calcium pyrophosphate.⁵

Brudevold et al assert that enamel absorbs more fluoride from a solution of sodium fluoride acidulated with phosphoric acid (acidulated fluoride-phosphate) than from a stannous fluoride solution or from a neutral sodium fluoride

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solution.⁶ Wellock and Brudevold⁷ consider the anticariogenic quality of topically applied acidulated sodium fluoride superior to that of stannous fluoride² or neutral sodium fluoride.⁸

Goaz et al report a significant additive anticariogenic effect in a fluoridated community following nine months of unsupervised daily brushing with a six per cent solution of sodium monofluorophosphate.⁹

Berggren and Welanders of Sweden claim significant reduction of the caries attack rate in school children who brushed their teeth with a one per cent sodium fluoride solution nine times in two years.¹⁰ The toothbrushing was supervised but the subjects in the experimental and control groups were not truly comparable.

The present study tests whether acidulated fluoride-phosphate, used four or five times in a classroom toothbrushing drill, measurably reduces caries incidence over a 12 month period. The results of this study are presented in terms of effect upon deciduous and permanent teeth. Permanent teeth, in this report, include only the first permanent molars and lower incisors — this being the permanent tooth population present in the subjects under study. Further reports will be made after eight or nine brushings have been carried out and after a total study period of 24 months.

METHOD

The test solution was prepared by the Faculty of Pharmacy, University of British Columbia, according to the formulation reported by Wellock and Brudevold.⁷ It has a pH of approximately three and, therefore, a rather strong acidic, but not metallic, flavour. When stored in polyethylene containers, the solution is reported as being stable indefinitely.⁷ This was confirmed during the period of this study by serial analyses of the solution.

Subjects of this study were grade 1 pupils of the schools of the Nanaimo and Courtenay areas of British Columbia. Less than one per cent of parents requested that their child be excluded. At the commencement of this study these children were approximately six years of age.

Early in the school year, one of us (D.C.T.B.) examined all subjects using No. 5 plane mirrors, No. 5 explorers and standardized artificial lighting. Recorded were def teeth and surfaces and, where applicable, DMF teeth and surfaces. At the time of the examinations these children were not specifically counselled in respect to desirable dental health practices.

Toothbrushes, in plastic containers with the name of each child labelled on each brush, were issued to all classroom teachers. At intervals of approximately six weeks, public health nurses visited the classrooms immediately following the lunch period and, with the teacher, supervised a total of five toothbrushing drills during the school year.

Children of each classroom were arbitrarily divided into two equal groups either by the use of random numbers, by alphabetical order, or by location in the classroom. At each toothbrushing drill children assigned to the experimental groups used the acidulated fluoride-phosphate solution and the control group used distilled water. On all occasions the drill for toothbrushing was that prescribed in the pamphlet published by the Canadian Dental Association entitled *How to Brush Your Teeth*. The toothbrush was freshly dipped into the test or placebo solution before proceeding to each phase of the drill.

Teachers were requested to encourage all children who stayed at school for their midday meal to use their toothbrushes immediately after their lunch, but with tap water. Whether or not this was carried out depended entirely upon the continuing enthusiasm of the teacher.

Four or five toothbrushing drills were completed by 815 children or 86 per cent of the original group. Re-examinations were carried out precisely 12 months after the original series and approximately six months after the last toothbrushing drill. Available for re-examination were 646 subjects almost equally divided between test and control groups.

The second examination, in each instance, was carried out without reference to the original chart, nor did the examiner (D.C.T.B.) know whether the child had used the test or placebo solution. Before

each patient was dismissed, the dental assistant compared the records of the first and second examinations. Any tooth or surfaces for which a changed diagnosis was noted was drawn to the examiner's attention and the current diagnosis re-checked.

It may be postulated that increased oral hygiene awareness in the schools where this study was conducted could result in a decreased caries increment even among subjects of the control group brushing with distilled water. Therefore observations were also made in schools of another community where no classroom tooth-brushing drills were carried out. Comparisons between the caries increment of the control group of this study and of these other grade 1 pupils, over precisely

the same period of time, are separately reported.

RESULTS

Table 1 compares the average age, proportion of males and females, and initial caries attack rates of the control and experimental groups. There is little difference between the two groups with regard to the first two items, but the control group has a higher initial caries attack rate. Therefore, dental caries increments of the control and experimental groups are also compared after having been stratified according to previous caries experience of the subjects (Table 4).

TABLE 1 Age, sex distribution and initial attack rates of control and experimental groups, fluoride-phosphate toothbrushing study, 1962-63.

Item	Control group	Experimental group
Number of subjects	466	474
Average age (year, months)		
Males	6y 4.7m	6y 4.7m
Females	6y 4.3m	6y 4.0m
All subjects	6y 4.6m	6y 4.3m
Percentage of males	52.1	50.4
Percentage of females	47.9	49.6
Average def teeth per child	7.20	6.49
Average def surfaces per child	16.35	14.38
Average DMF teeth per child	0.52	0.35
Average DMF surfaces per child	0.85	0.58

TABLE 2 Caries increments of deciduous and permanent teeth of control and experimental groups, fluoride-phosphate toothbrushing study, 1962-63.

Item	Control group	Experimental group
Number of subjects	315	331
New carious surfaces on deciduous teeth	1,462	1,461
Average caries increment per child		
deciduous teeth	4.6	4.4
S.E.	0.2	0.2
Percentage reduction in caries increment for experimental group		4.3%
New carious surfaces on permanent teeth	829	520
Average caries increment per child		
permanent teeth	2.6	1.6
S.E.	0.2	0.1
Percentage reduction in caries increment for experimental group		38.5%

Table 2 presents the results of the second examination. Listed are deciduous and permanent caries increments that occurred in both groups during the study period. The control group experienced an average of 4.6 new carious deciduous surfaces per student, while the experimental group had an average of 4.4 new carious deciduous surfaces. This slight difference is not statistically significant.

In the permanent teeth, the control group developed an average of 2.6 new carious surfaces per child, compared to 1.6 in the experimental group. This is a reduction of 38.5 per cent. The likelihood of a decrease of this magnitude occurring by chance is extremely small, well beyond the 0.1 per cent level of significance.

Table 3 shows the numbers and percentages of experimental and control subjects at various levels of caries increment at

the conclusion of study period. The proportions of experimental and control subjects at each level of deciduous caries increment are quite similar, apart from a somewhat lesser proportion of the experimental group with more than nine new carious surfaces. For the permanent teeth, the experimental group consistently shows much more favourable results. More than half of the experimental group developed no new carious lesions in the permanent teeth, compared to less than 36 per cent in the control group. About the same proportions of each group developed from one to four carious permanent surfaces, but only 11 per cent of the experimental group developed five to nine carious permanent surfaces, compared to 23 per cent of the control group.

Table 4 shows the average caries increments for the control and experimental

TABLE 3 Percentages of control and experimental subjects at various levels of caries increment at conclusion of fluoride-phosphate toothbrushing study, 1962-63.

Caries increment (new carious surfaces)	Deciduous teeth		Permanent teeth	
	Control group	Experimental group	Control group	Experimental group
0	13.0% (41)	14.2% (47)	35.5% (112)	50.1% (166)
1 - 4	43.2% (136)	41.7% (138)	40.3% (127)	38.7% (128)
5 - 9	30.8% (97)	35.6% (118)	23.2% (73)	10.6% (35)
10 or more	13.0% (41)	8.5% (28)	1.0% (3)	0.6% (2)
Total	100% (315)	100% (331)	100% (315)	100% (331)

Number of subjects in each category shown in parentheses.

TABLE 4 Average caries increments of control and experimental groups stratified according to previous caries experience of deciduous and permanent teeth, fluoride-phosphate toothbrushing study, 1962-63.

Previous caries experience by surfaces	Mean caries increment			
	Deciduous tooth surfaces		Permanent tooth surfaces	
	Control group	Experimental group	Control group	Experimental group
0 - 4	2.3 (57)	2.7 (82)	2.6 (297)	1.6 (319)
5 - 9	5.5 (32)	5.7 (46)	3.1 (14)	1.8 (11)
10 - 14	4.9 (47)	5.2 (41)	3.7 (3)	3.0 (1)
15 - 19	4.6 (60)	4.0 (58)	4.0 (1)	
20 - 24	5.9 (39)	5.1 (45)		
25 - 29	5.2 (32)	5.3 (25)		
30 and over	5.2 (48)	4.8 (34)		
Total	4.6 (315)	4.4 (331)	2.6 (315)	1.6 (331)

Number of subjects in each category shown in parentheses.

groups stratified according to the subjects' previous caries experience.

No great differences or consistent pattern are noted when comparing between the two groups the deciduous caries increment at various levels of previous caries experience. At the lower levels of previous caries experience the experimental group tends to have slightly higher caries increments of deciduous teeth. But the reverse obtains in several of the higher strata of previous deciduous caries experience.

In the permanent teeth, the experimental group shows markedly lower caries increments at all levels of previous caries experience.

DISCUSSION

Brudevold suggests that the effectiveness of stannous fluoride as a topical agent can be partly attributed to its low pH (about 3.0), thus favouring maximum fluoride uptake. He also reports that fluoride uptake is greater from a solution of sodium fluoride in acid sodium phosphate and that acquisition of fluoride increases as the pH of the solution decreases.⁶

Bibby suggests that partially decalcified enamel is re-hardened in the presence of calcium and phosphate ions, and that this re-hardening is greatly accelerated if traces of fluoride are present.¹¹

Brudevold reports that fluoride accumulates in the surface enamel of permanent teeth with progressive increase of age.¹² He also suggests that there is probably a slow replacement of carbonate with phosphate within the surface enamel of permanent teeth.¹²

If we can assume that newly erupted permanent enamel surfaces absorb fluoride more readily than mature deciduous enamel surfaces, this may perhaps explain the dissimilar effects upon deciduous and permanent teeth observed in this study.

The fluoride-phosphate solution used in the present investigation had a strong acidic flavour. This solution was developed to be applied topically. It would be desirable if a more acceptable yet equally effective solution were available for use in toothbrushing.

CONCLUSION

Further study is necessary to ascertain whether this is a practical method of caries prevention. Nevertheless, these results appear to indicate that a degree of protection may be acquired from this technique by newly erupted first permanent molars.

SUMMARY

An acidulated fluoride-phosphate solution used in a supervised toothbrushing drill four or five times over a period of seven months retarded the onset of caries in newly erupted first permanent molars and lower incisors when measured one year after the original examinations. There was no observable effect upon the caries increment of the deciduous dentition. A further report will be made when eight or nine brushings have been completed during two succeeding school years and after a total study period of 24 months.

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CURRENT DENTAL RESEARCH IN CANADA

In the following 20 annotations the Journal presents short sketches of significant dental research currently underway in Canada. Each annotation is condensed from a report presented by the respective author at the Third Canadian Conference on Dental Research, Ste-Marguerite, P. Quebec, October 5-7, 1964. The Journal is grateful to the conference participants for providing these annotations. The Journal also welcomes constructive comment from readers with a view to improving the usefulness of such presentations to the profession.

Dental Materials

Influence of Certain Fusing Range Solders on Cast Gold Parent Metals

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Available information about the influence of heat on the microstructure of cast gold alloys is very limited. A common dental procedure is that of joining fabricated gold alloy castings by soldering. The application of heat produces varying effects on the grain structure of the parent metals thus joined. This report concerns itself with one phase of a larger metallurgical investigation in progress and deals with the determination of the relationship of hardness values obtained at different locations on the soldered cast specimens to the existing or altered grain structure, influenced by temperature

changes occurring during soldering operations.

Calcium, Phosphorus, Strontium

Significance of Fallout Strontium⁹⁰ in Teeth of Children and Cattle*

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Deciduous teeth from Montreal or Toronto were pooled according to the following criteria: date and place of birth of child; incisors, cuspids or molars; and source of milk in first year diet. Enamel and dentine fractions were isolated. Individual cattle teeth from the Toronto area were segmented according to half-yearly mineralization periods. Bone tis-

*This study is supported by funds from the Association Committee on Dental Research of the National Research Council of Canada.

sue was obtained from the same cattle. The strontium⁹⁰ content, in picocuries/Gm. calcium was higher in dentine of Montreal teeth than in dentine of Toronto teeth for the years 1954 to 1957 respectively (Montreal dentine: 1.091, 1.665, 1.946, 2.781; Toronto dentine: 0.823, 1.130, 1.537, 1.845). Human enamel had less strontium⁹⁰ than had dentine from the same teeth, by 0.2 to 0.3 picocuries/Gm.-Ca, for all years from 1952 to 1957. Radioactivity in teeth formed in any one year can be compared directly to that in diet for the same year. For the year 1954 to 1957, the ratios

$$\frac{\text{picocuries strontium}^{90}/\text{Gm. Ca in dentine}}{\text{picocuries strontium}^{90}/\text{Gm. Ca in total diet}}$$
for the Montreal area were 1.091: 2.720, 1.665:6.100, 1.946:8.640 and 2.781:11.700. The coefficient of variation was in the order of 25 per cent for the strontium⁹⁰ content of segments of cattle teeth formed in the same year. Strontium⁹⁰ activities in bone were lower than in dentine during periods of rising dietary activities and higher during periods of declining activity. Strontium⁹⁰ activities in enamel were always lower than those in dentine from the same teeth. Consideration of yearly variations of strontium⁹⁰ in diet, of bone turnover, and of the known repository of strontium⁹⁰ in teeth could give an accurate assessment of the discrimination against the isotope as it passes from diet to man.

Effect of Parathyroid and Thyroid Glands on Calcium Homeostasis and Submaxillary Gland Calcium

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There is increasing evidence that the thyroid gland plays a role in calcium homeostasis. Bajusz et al also suggest that some thyroid principle other than thyroid hormone promotes the entry of calcium ions into damaged tissue. Hirsch et al report that the rat thyroid gland elaborates a substance, "thyrocalcitonin," which has hypocalcaemic properties and is extractable with dilute hydrochloric acid. Stud-

ies on rats demonstrate that thyroparathyroidectomy and parathyroidectomy represent different hormonal states in relation to calcium homeostasis. Parathyroidectomy in the rat raises the calcium content of submaxillary glands in spite of lowered serum calcium.

The studies reported here were undertaken to determine whether there is a difference in the calcium content of submaxillary glands of control, parathyroidectomized, thyroidectomized and thyro-parathyroidectomized rats. Male Holtzman rats weighing approximately 200 Gm. were used in this study. Calcium analyses of plasma and tissues were done two weeks after surgery. The submaxillary gland calcium increased after parathyroidectomy and thyroparathyroidectomy. The calcium content of other tissues, muscle, liver and kidney paralleled the changes in plasma calcium. It is concluded that (1) absence of the thyroid gland does not affect the calcium content of the submaxillary glands of the rat, and (2) the increase in the calcium content of this tissue after parathyroidectomy is not due to the action of a thyroid principal.

Rat Intestinal β -Galactosidase

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The β -galactosidase (lactase) activity of rat intestinal homogenate was found mainly in the non-particulate fraction. Reaction kinetics were studied with *O*-nitrophenyl- β , D-galactopyranoside as substrate. Enzyme activity was determined in serial ten-centimetre sections of the small intestine, measured from the pylorus to the ileocolic end.

Greatest activity was found in the seventh and eighth sections distal to the pylorus. A two-day fast resulted in highly significant decreases in β -galactosidase activity, notably in sections seven and eight.

Rats were force-fed by intubation after a two-day fast. They were killed two and a half hours after force-feeding and intestinal β -galactosidase activity was de-

terminated. Force-feeding affected enzyme activity as follows: unchanged by calcium chloride, increased by α -lactose, decreased by β -lactose, and decreased by α -lactose plus calcium chloride.

These experiments constitute part of a more comprehensive investigation concerned with absorption of calcium and phosphate from the gastrointestinal tract.

Calcium Phosphate Solubility Phenomena

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Solid:liquid ratios in a calcium phosphate system¹ were altered in several ways to study its incongruent solubility and to determine whether hydroxyapatite does or does not have a true solubility product constant.²

Calcium hydroxide was added to phosphoric acid to give three calcium phosphate mixtures with calcium:phosphorus molar ratios of 0.55, 0.98 and 1.32 respectively. Precipitates formed in each and were allowed to equilibrate at 37°C. with their supernatants for eight days. The pH and calcium and phosphorus concentrations of the supernatants were determined and the p^aK_{sp} for hydroxyapatite was the same in the three mixtures. In one series of experiments, the solid to solution ratios were progressively increased by the successive removal of supernatant; the mixtures were re-equilibrated after each stage of removal and the supernatants re-analyzed. No change in the p^aK_{sp} occurred on any occasion. In a second series, solid:liquid ratios were increased by evacuation of water. The calcium and phosphorous concentrations and the pH altered appreciably in all three mixtures, but the p^aK_{sp} for hydroxyapatite remained constant. In a third series, the supernatants were separated from the solids, the solids dried at 37°C. and different quantities of each solid re-equilibrated with a fixed volume of corresponding supernatant. Again the p^aK_{sp} for hydroxyapatite was constant even though the solid:liquid ratios varied

several-fold. Experiments similar to those of Levinskas and Neuman were then carried out, in that increasing quantities of solid were equilibrated with (1) distilled water and (2) acetate buffer pH 5.6. Their observation of incongruent solubility was confirmed — more hydroxyapatite dissolved at the higher solid:liquid ratios. Interestingly, in water, the ion products for hydroxyapatite were below the p^aK_{sp} obtained earlier, while in acid, they were above. Further experiments showed that the phenomenon of incongruent solubility occurred when the calcium:phosphorous ratio of the supernatant did not correspond to the ratio of calcium:phosphorus in the solid. In these circumstances, the calcium:phosphorus ratios in both supernatant and solid changed, with the extent of change being dependent upon the initial ratio of solid:liquid. Such alterations of the calcium-phosphorus ratios can be explained by the presence of more than one phase in the solid.

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Periodontal Disease

First Year Results of a Serial Study of the Periodontal Condition of a Group of Teen-age Burlington Children

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Ten years after inception of the Burlington (Ontario) Orthodontic Research Project the study was expanded, and included in this phase of the project is a periodontal examination of the serial group. Children with mixed dentition or orthodontic appliances were not examined. At the end of the first complete year 196 children, 12, 13 and 14

years old, were examined by C.B.M. at the same appointment that the annual orthodontic records were made.

Records were made of abnormal gingival colour, plaque, dental calculus, and periodontal pockets at six sites on each of all the permanent teeth of each child. For each sign there were three choices—negative, or two degrees of abnormality.

One hundred boys and 96 girls were examined. Seventy per cent had no abnormality, 18 per cent had plaque, and 15 per cent had supragingival calculus, but only three per cent showed gingival inflammation as judged by the colour. Four per cent of the children had periodontal pockets 3 - 6 mm. deep.

Except for plaque, each sex was almost equal in prevalence of signs. Plaque was 3½ times more frequent in boys. Plaque was much more common on buccal than on lingual surfaces. The most frequent site was the buccal surface of the upper first molar, followed by the labial surface of the anterior teeth. Calculus was most commonly found on the lingual surface of the lower anterior teeth, with some occurring on the buccal surface of the upper first molars. Abnormal colour was noted most frequently buccal to the bicuspid. Pockets were most prevalent mesial and distal to the first molars, especially in the maxilla. Thus buccal surface of the maxillary first molars showed the greater incidence of plaque and pockets, with a moderate degree of calculus accumulation. However, all three signs were not noted in any one individual.

Bio-engineering Study of Tooth Supporting Structures

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Bio-engineering methods are the same as other engineering methods, the only difference being that measurements are made on living structures which are constantly undergoing physiological and pathological change. Such change is reflected in the physical characteristics of the tissues. Changes in the physical properties of the tissues have been ob-

served in clinical subjects, but the concomitant biological changes are not known. Animal experiments have been used to differentiate the effects of alterations of various tissue components on the physical characteristics of the tooth supporting structures.

Components of systems which support the tooth, other than the vascular system, remain intact for eight or more days in gross specimens. Specimens can then be immersed in various substances which differentially affect collagen, ground substance or other tissue components of the periodontium, and subsequent change in physical properties can then be observed.

Time, force and movement studies show that the soft tissues supporting the tooth are characterized by an immediate displacement when force is applied, followed by a slow, continuous displacement. On removal of the force, there ensues an immediate, partial recovery, followed by a delayed partial recovery. Differential alteration of the components of the periodontal structures produces alterations in the displacement and recovery characteristics. Thus, sudden changes in the physical characteristics are shown to be associated with known tissue changes and clinical findings become more meaningful.

Oral Spirochaetes Associated with Vincent's Infection

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Investigation with the electron microscope of the fine structure of oral spirochaetes provided morphological data which may be of value in distinguishing between different types of organisms. An attempt to correlate the fine structure of oral spirochaetes in gingival debris with several cultivated strains including *Borrelia vincentii* indicated the presence of as yet unidentified spirochaetes in gingival debris. Some of these unidentified spirochaetes were present in high concentration in gingival lesions of Vincent's infection, suggesting that the spirochaetes associated with Vincent's infection are different from *B. vincentii*.

Collagen and Bone

Metabolism of Glucose-U-C¹⁴ by Bone

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Diverse, and at times, contradictory effects of medium composition upon glycolysis by bone preparations from various sources have been reported by different workers. Data obtained during the incubation of calvarial preparations from newborn rats in phosphate or THAM (Tris [hydroxymethyl] aminomethane) buffered media with glucose-U-C¹⁴ at levels in the range 0.4-1.6 mM have established further differences and provided possible explanations for some of those already reported. The phosphate concentration in the two media was 15.6 mM and 1.3 mM respectively. Measurement of the specific activity of the medium glucose after incubation showed that appreciable quantities of unlabelled glucose were released by the tissue. This release, which was greater in phosphate than in THAM buffered medium, was significant enough at the glucose concentration used to produce a considerable error if assessment of glucose utilization were made solely on the basis of a chemical assay. The specific activity of the lactate formed was less, in both media, than that of the glucose initially present, indicating endogenous dilution. By relating the specific activities of glucose and lactate it could be shown: (1) that the fraction of the lactate derived from glucose-U-C¹⁴ was almost twice as large in THAM as in phosphate buffered medium at each level of glucose employed; (2) that the rate of formation of lactate from endogenous substrates was greater in phosphate than in THAM buffered medium; (3) that the principal effect of altering the glucose concentration was to increase the lactate derived from glucose in a linear fashion, the rate of lactate production from endogenous sources being essentially independent of the glucose concentration; and (4) that the greater variability in the production rate of lactate in phosphate buffered medium was due to factors con-

trolling glycolysis at a point beyond that at which the endogenous dilution was occurring.

Effect of Dietary Fluoride on Blood and Bone Citrate

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Partial hepatectomy and bilateral nephrectomy performed in rats (HN) at 48 hour intervals produced an increase in blood and bone citrate levels. The values were eight times higher in the blood and up to twice the normal amounts in bone.

The addition of fluoride to the drinking water for a 25 day period did not introduce any specific variations in high levels of the blood and bone citrate of the HN rats. On the other hand high citrate levels of the blood did not cause any alterations in the fluoride control of the bones in rats fed various amounts of fluoride.

Micro-Angiographic Studies of Monkey and Human Peri-Dental Vessels

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Review of the literature on the vascular supply of dental tissues reveals that comparatively little work has been done on the major blood vessels supplying the human jaws and teeth, previous studies having been largely restricted to the small vessels in and about the tooth. This arises from the difficulty of obtaining fresh dentulous material as well as the difficulty of visualizing these vessels throughout their intra-osseous course. Methods previously used to determine intra-osseous course of these vessels include dissection and histological section, clearing by the Spalteholz method, and standard radiography. The last unfortunately provides inadequate resolution with resultant loss of vascular detail.

Exploratory micro-angiographic studies of peridental vessels in the monkey and

in human perinatal and adult jaws are being carried out by contact and projection x-ray microscopy. The penetration and depth of field of the x-ray microscope has distinct advantages over the optical microscope in the study of vessels within the hard enveloping tissues of the tooth and jaw. Better vascular definition demands the use of new micro-angiographic and x-ray microscope techniques. The differentiation of arteries and veins in x-ray microscopy has been achieved by double injection with coloured radio-paques (Chromopaques: Damancy) of differing radiopacity.

Initial microradiographic studies have revealed that alveolar arteries and veins, connecting the vessels of the mandibular canal and gum, can be pictured in both dentulous and edentulous areas of the adult human mandible. Within the jaw the intra-osseous vessels form a mesh pattern dictated by its bony (cancellous trabecular) pattern. This is evident in all parts. Both arterial and venous ramification has been observed in the mandibular canal, and marked vascularity noted at the site of muscle attachments to the jaw, such as the angle and coronoid process.

A more complete picture of the vascular supply of both the growing and adult human jaw is required. We must bridge the gap between our knowledge concerning the gross and microscopic anatomy of these vessels.

Dental Caries

Epidemiological Study of the Dental Caries 'Swab' Test

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The 'Swab' test is a modified Snyder test whereby a semi-liquid medium is inoculated by inserting in a closed vial a cotton applicator which has been used to swab the buccal surfaces of the teeth. The

test eliminates the need for having a small child expectorate into a bottle and the need for sterile pipettes and facilities for melting agar. The new simplified technique is suitable for field use in public health or in the dental office.

Validation of the predictive usefulness of the test is based on longitudinal data for 180 children over a four year period. The conclusion is that, when combined with knowledge of previous caries experience, the test provides a reasonable indication of future caries increments. The reproducibility or technical reliability of the test was investigated by analysis of duplicate tests, and by studying within day and between day variation in test results.

While the test is basically one for the detection of large numbers of aciduric, acidogenic organisms and as such is empirically of some interest, preliminary morphological investigations of the nature of the organisms involved were also carried out. A wide spectrum of organisms is apparently involved but particular interest has been given to rare cases which are alkali rather than acid producers. Future investigation of the latter phenomenon may be considerably more valuable than the development of the empirical test.

Dental Caries, Fluoride Levels and Water Hardness in Wetaskiwin, Alberta

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The incidence of dental caries in elementary school children in Wetaskiwin, Alberta, (1.5 - 2.0 ppm F-) is approximately one-third that found in elementary school children in Camrose, Alberta, (low fluoride) and compares favourably with caries reductions reported elsewhere in communities with adequate levels of fluoride.

Wetaskiwin water is from deep wells and has been of consistently low hardness since 1940. Hardness and fluoride levels taken from water analysis records since 1940 revealed the accompanying table.

Month	Year	ppm hardness	ppm fluoride	Ratio of hardness to fluoride
September	1940	0	2.1	0:2.1
September	1951	10.7	1.7	6:1
February	1960	13.0	1.8	7:1
January	1962	55.0	1.8	30:1
September	1964	71.7	1.2	60:1

No cases of unsightly mottling were observed. Socio-economic level and ethnic and racial origin of the children revealed only minor differences between the two groups.

Growth and Development

Bone Marking and Cephalometric Bone Growth Studies

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An experiment was made to evolve a serial bone marking technique for longitudinal study of growth in laboratory animals. The experiment included work to ascertain the suitability of bone marking agents and determine the toxicity to the experimental animal generally and upon bone growth specifically. Alizarin red S, trypan blue, terramycin, calcium⁴⁵, and acid alizarin blue BB were examined and were found to have the required properties. The dosimetry, toxicity, effect on the growth of bone and the marking characteristics of these agents were investigated using the rat as the experimental animal. The use of these agents in a serial manner has given a multiple marking technique suitable for the assessment of the differential growth changes taking place in growing bones. In the second phase of the experiment this technique was applied to longitudinal study of bone growth in experimental animals.

A combined radiographic cephalometric and bone marking experiment was con-

ducted in the rat. This study gave information about the specific growth sites within the bones of the craniofacial complex which are responsible for the changes in the special arrangement of the cephalometric points noted from the longitudinal cephalometric study.

Role of Neural Crest Cells in Embryological Development of the Face

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The neural crest is an ectodermal ridge formed at the junction of neural and skin ectoderm of vertebrate embryos, just prior to the formation of the neural tube. Cells migrate from this ridge to contribute to the underlying mesenchyme and portions of the peripheral nervous system.

Although considerable information has been obtained about the role of these cells in amphibian facial development, technical difficulties have obstructed efforts to obtain similar information for higher vertebrates.

In the present study, cells of the neural crest of chick and salamander embryos were labelled with tritiated thymidine and their subsequent migrations and contributions to facial mesenchyme, ganglia and nerves, cartilage, teeth (in the salamander), and other tissues were followed radio-autographically. Evidence for similar neural crest cell migrations in the rabbit embryo, developing in organ culture, was found through the use of vital dye markers.

Various facial malformations, including clefts of the primary palate, resulted from extirpation of the cranial neural crest in the chick.

Concept of Skeletal Age

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The skeletal age of a group of French and English speaking Canadian children was assessed from hand and wrist radiographs. The skeletal maturity was evaluated by two different methods: first, the inspectional method from Greulich and Pyle's Atlas; second, by the scoring system established in the British population by Tanner and Whitehouse.

Both groups (English and French) were more advanced skeletally, when assessed by the scoring system. By contrast, the French group was retarded in its skeletal maturity, when compared to the Greulich and Pyle standards.

To ensure the accuracy of the assessments two trained persons studied 115 radiographs and evaluated them twice by both methods. The difference between the two observers was only three months by the inspectional method and two months by the scoring system.

Pharmacology

Effects of Tetracyclines on Teeth and Bones

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Five experiments were designed to study the gross and histological effects of the four homologues of tetracycline, chlortetracycline (CTC), demethylchlortetracycline (DCTC), tetracycline (TC) and oxytetracycline (OTC), on teeth and bones as follows: (1) Four groups of adult male Wistar rats were each given a different tetracycline at recommended oral therapeutic doses by weight for 21 days. Examination of the continuously erupting incisor teeth in visible light showed no enamel hypoplasia or change in pigmentation. Under ultra-violet light fluorescence was seen earlier and to a greater

degree in DCTC and CTC than in TC and OTC. (2) Young adult female rats were fed therapeutic doses of the different tetracyclines throughout the 21 days of pregnancy. The drugs had no effect on litter size and fluorescence was detected in the pups' teeth and bones. (3) Lactating female rats were fed the various homologues at therapeutic levels for 21 days after birth. Fluorescence was noted in the teeth and bones of the sucklings. (4) Seventy-four weanling rats from seven litters were divided into two equal groups. The experimental group received 39 daily therapeutic doses of the tetracyclines beginning at age 21 days. The two groups showed no significant difference in weight gain or femur growth at the end of the 39 days. An apparent topical as well as systemic deposition of the fluorophore was discovered in fluorescent microscopic examination of undecalcified ground sections of teeth. (5) With the aid of the tetracyclines a pilot study was conducted to compare the sealing capabilities of various restorative materials used in dentistry.

Study of Analgesic Properties of Certain Neuroleptics

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Trimeprazine has long been well-known for its efficacy in the treatment of pruritus. In a series of experiments, utilizing different techniques, it was shown to possess specific analgesic properties. In two of these methods — Bianchi (mice), d'Amour and Smith (rats) — trimeprazine, in different doses, was compared to morphine and a placebo and the results obtained show that trimeprazine has analgesic properties. Using the Bianchi test, we found that trimeprazine (15 mg./Kg. i.p.) is comparable to morphine (5 mg./Kg. i.p.) ($p < 0.05$). However, no potent analgesic effect of trimeprazine was obtained using the d'Amour and Smith technique.

In another experiment — dental pulp stimulation method — in which a double

blind cross-over study was done on 11 rabbits, trimeprazine (15 mg./Kg. i.v.) was compared with morphine (5 mg./Kg. i.v.) and a placebo. Fifteen minutes after injection trimeprazine was significantly superior to the placebo ($p < 0.001$) but indistinguishable from morphine. One hour after injection trimeprazine was significantly superior to both the placebo ($p < 0.001$) and morphine ($p < 0.01$).

Two other drugs, haloperidol and trimeprimine, were examined by the hot-plate method. Haloperidol was shown to have some analgesic activity, while trimeprimine gave no significant result.

The sedative action of trimeprazine and haloperidol was confirmed by the traction test. The same technique gave insignificant results for trimeprimine.

Salivary Glands

Effect of Molybdenum on Rat Submaxillary Gland Metabolism

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Molybdenum (as ammonium molybdate) was administered to rats both in their drinking water and in their diets in amounts up to 400 ppm. In one series of trials the animals were killed at various time intervals (up to four months on diet) and slices of submaxillary gland prepared, incubated with radioactive sulphate (S^{35}) and the lipid content examined. Pilocarpine and acetylcholine were added to the incubation medium on occasion. Parallel

studies were performed on animals injected intraperitoneally with radiosulphate. The results of all these studies indicate that the presence of molybdenum in amounts up to 400 ppm has no influence on submaxillary gland sulpholipid metabolism.

Effects of Changes in Proportion and Type of Dietary Carbohydrate on Amylase and Protein Concentrations in Rat Saliva

C. Dawes, Faculty of Dentistry, University of Manitoba, Winnipeg, Manitoba, and J. H. Shaw, Harvard School of Dental Medicine, Boston, Massachusetts

Amylase activity, total protein concentration and patterns obtained by paper electrophoretic separation of proteins were compared in pilocarpine-stimulated saliva (1) from 80-day-old rats of the Harvard caries resistant and caries susceptible strains fed a 67 per cent sucrose diet from weaning, and (2) from rats of the latter strain fed similar diets except that the sucrose was replaced either by corn starch or an isocaloric mixture of protein and fat. Male rats had higher salivary flow rates than female rats but the concentration of amylase and total protein appeared to be independent of sex or flow rate. Total salivary protein concentration appeared to be higher in rats fed the high protein diet and difference occurred in electrophoretic patterns among the groups. Since the concentration of salivary amylase was not significantly different among the four groups, we concluded that the presence of carbohydrate in the diet was not required to induce the synthesis of salivary amylase.

1964 Survey of dental research in Canada

Council on Research

In 1954 the first survey of dental research in Canada was made by the Research Committee of the Canadian Dental Association.¹ Five years later, in 1959, a follow-up survey was carried out to measure research growth that had occurred during the interval.² Information gathered in these surveys has proved useful, and an additional follow-up survey has now been made to record the state of dental research in Canada at the end of a second five-year period. Greatest emphasis has been placed on the programs in dental schools because, although all dental research is not done in the schools, most of it is, and data from the schools is a little more readily obtained. Growth of research in teaching institutions probably reflects the national pattern quite accurately.

Data from the newly established dental school at the University of British Columbia are not included in the main tables. Progress at U.B.C. is reported separately. This was the pattern followed in 1959 respecting the dental school at the University of Manitoba which was just starting at that time.

Other areas where dental research might be going on were not ignored, and through the office of the Chief of the Dental Health Division, Department of National Health and Welfare, a survey of the work being done by dental health units across the country was made. This aspect is also reported separately.

To facilitate comparison between the new figures and those from earlier surveys, the earlier data from the schools are shown in the current tables.

RESEARCH IN DENTAL SCHOOLS

There is about four or five times as much research being done in Canadian dental schools today as there was in 1954. Not all of the factors measured in this survey, i.e. personnel, space, students and spending, have grown at the same rate (Tables 1-4), but all show the same trend toward a gratifying and significant increase in this area of professional responsibility.

Between 1954 and 1959 the total number of personnel doing research did not change appreciably. In 1954 one-third of those engaged in research had had no special training for such work. Five years later there were very few dental research workers without special qualifications (Table 1). According to the 1959 survey there had been a decline in the number of non-dental researchers working in dental research.

Since 1959 the number of people who have had special training in research and who are working in the dental field has again doubled, with a corresponding increase in the number of technical personnel. The number of non-dental but research qualified people engaged in den-

TABLE 1 Dental research personnel in Canadian dental schools, 1954, 1959 and 1964.

Year	School	Professional personnel				Technical personnel
		D.D.S. degree only	D.D.S. plus research degree	Research degree only	Total	
1954	Alberta	0	0	2	2	1
	Dalhousie	0	0	1	1	1
	Manitoba	—	—	—	—	—
	McGill	0	0	1	1	1
	Montréal	1	2	1	4	0
	Toronto	9	9	4	22	10
	Total	10	11	9	30	13
1959	Alberta	2	3	0	5	1
	Dalhousie	0	2	2	4	1
	Manitoba	—	—	—	—	—
	McGill	0	1	1	2	1
	Montréal	1	3	0	4	1
	Toronto	0	12	1	13	9
	Total	3	21	4	28	13
1964	Alberta	2	10	2	14	3
	Dalhousie	1	1	0	2	2
	Manitoba	1	5	3	9	12
	McGill	2	2	1	5	3
	Montréal	0	6	2	8	3
	Toronto	0	17	2	19	15
	Total	6	41	10	57	38

tal research has returned to about the 1954 level. A number of the latter are today full-time academic research appointees to the dental schools, and not simply qualified people attached to other university departments engaged in some dental research as was the case years ago. The total number of professional staff doing research in dentistry has increased from 28 to 57 in the last five years. This, together with the fact that most of this increase is due to the addition of personnel specially trained to do research, is probably the most significant criterion of the growth of dental research in Canada.

Between 1954 and 1959 new dental schools were built at both Dalhousie and Toronto Universities. Both provided space for research. This, together with the provision of additional room at the Université de Montréal, increased laboratory space by a factor of about five during that period. Since 1959 additional space has been provided by expansion at the University of Alberta, and by the

new dental school at the University of Manitoba. This increase furnished about 25 per cent more room in 1964 than was available in 1959.

During this same period, however, the number of people engaged in dental research has doubled. If growth rates for personnel and space continue at present individual rates, one can predict a serious shortage of space for dental research in Canada in the near future.

Research equipment in only two of the six schools is reported as being adequate. All the others either need to purchase new equipment outright, or to replace the old. A very considerable portion of the unmet financial needs of the schools reported below is required for research equipment.

GRADUATE AND POSTGRADUATE EDUCATION

Graduate education and research go hand in hand. Thus the increase in the number of students registered in

Canadian dental schools proceeding to the Master's or Ph.D. degree also reflects research growth. Both in 1954 and in 1959 one school was carrying the load in graduate training. By 1964 three other schools had registrants, thus tripling the number of students during the past five years (Table 3). Some doubt still exists as to whether all the students shown under 'graduate students' in Table 3 are undergoing a training leading solely to research qualification. Some are still proceeding basically to a clinical specialty.

Most of the specialty students are shown under 'postgraduate students' in Table 3. For these students research plays a part in their education, but it is not the main part. They are therefore not properly 'graduate students.' Their role in the future of dentistry is probably just as significant as that of the researcher, and the postgraduate program is just as important in the dental school. It is the character of the training that is different, not the quantity or the importance.

At present most postgraduate education occurs in one school. Others may be expected to increase enrolment in this area in the future as more staff, qualified in the specialties and experienced in teaching, are added to the faculty. In view of the small number and maldistribution of specialists, however, it may be some time before the teaching load in the specialties is distributed more equitably.

Furthermore, the emphasis placed by the Royal Commission on Health Services may presage a long needed expansion in both graduate and postgraduate areas of dental education.

RESEARCH EXPENDITURES

The final index used to measure the rate of growth of dental research in Canada was the amount of money being spent to support it. No figures are available for 1959, but the data for 1954 and 1964 are shown in Table 4.

TABLE 2 Research space and equipment in Canadian dental schools, 1954, 1959 and 1964.

Year	School	Research space (square feet)		Research equipment	
		In dental school	Other	Satisfactory	Not satisfactory
1954	Alberta	0	800		X
	Dalhousie	0	1,417		X
	Manitoba	—	—		
	McGill	0	500	X	
	Montréal	600	0		X
	Toronto	4,000	400	X	
	Total	4,600	3,117	2	3
1959	Alberta	100	0		X
	Dalhousie	1,100	1,300	X	
	Manitoba	—	—		
	McGill	250	0	X	
	Montréal	2,000	0		X
	Toronto	25,000	400	X	
	Total	28,450	1,700	3	2
1964	Alberta	1,920	530		X
	Dalhousie	1,100	1,300	X	
	Manitoba	6,700	300	X	
	McGill	200	400		X
	Montréal	2,000	0		X
	Toronto	25,000	400		X
	Total	36,920	2,930	2	4

TABLE 3 Graduate and postgraduate students in Canadian dental schools, 1954, 1959 and 1964.

Year	School	Number of students			Total
		Graduate		Postgraduate	
		M.S.	Ph.D.		
1954	Alberta	0	0	0	0
	Dalhousie	0	0	0	0
	Manitoba	—	—	—	—
	McGill	0	0	0	0
	Montréal	0	0	0	0
	Toronto	7	0	0	7
	Total	7	0	0	7
1959	Alberta	0	0	0	0
	Dalhousie	0	0	0	0
	Manitoba	—	—	—	—
	McGill	0	0	0	0
	Montréal	0	0	0	0
	Toronto	6	0	15	21
	Total	6	0	15	21
1964	Alberta	3	0	0	3
	Dalhousie	0	0	0	0
	Manitoba	3	3	0	6
	McGill	0	0	0	0
	Montréal	2	0	0	2
	Toronto	6	0	17	23
	Total	14	3	17	34

TABLE 4 Estimated research expenditure in Canadian dental schools, 1954 and 1964.

Year	Source				Total
	National Research Council	Dept. of National Health and Welfare	Industry	Other	
1954	\$ 26,870	\$30,000	—	\$20,000	\$ 76,870
1964	\$194,400	\$48,500	\$44,700	\$59,800	\$347,400

During the ten year period total extramural support for dental research increased by about 4.5 times. The National Research Council of Canada is still the major source of funds. Since 1954 N.R.C. grants have increased by a factor of about seven.

Other sources, such as the Department of National Health and Welfare, industry and private sources, have also all gone up, but to a lesser amount. It is particularly gratifying to see that industry now

supports dental research in Canada to the extent of almost \$45,000. Ten years ago no industrial funds were being used for this purpose at all.

The increased spending is shared by all schools. In 1954 two of the five schools reported no spending on research at all. Now all schools receive at least some extramural support.

In spite of this highly gratifying increase in research spending there is one more figure gathered in the survey that

tends to dampen this gratification. Each school was asked to estimate its unmet financial needs for dental research. The total need for all schools was almost \$374,000. This figure does not include needs for training fellowships.

The total need for staff, operating funds and for equipment is more than the total spent in the country in 1964 by over \$26,000. The greatest need is for equipment (reflected in Table 2). An estimated \$172,000 is needed for this item right away. About \$110,000 is needed for staff, and the rest for operating grants.

If funds had been available to meet the unmet requirements dental research spending would have exceeded \$720,000 exclusive of training fellowships—over nine times the 1954 total.

Greatly increased funds will have to be found to support dental research in Canada if expansion in this area is not to be throttled.

RESEARCH AT THE UNIVERSITY OF BRITISH COLUMBIA

At the time of this survey the Faculty of Dentistry at the University of British Columbia was just being organized. Information was obtained as to plans for dental research at U.B.C. This information is outlined below.

By August 1964, six of eight full-time appointees to the Dental Faculty at U.B.C. were already on campus. Three of these had assumed their posts in July 1963, and two were engaged in research during the year 1963-64. Plans are under way for the organization of a joint research program in the area of dental public health that will particularly involve two members of the staff. Others will carry on research that had been proceeding under previous appointments. It is expected that during the year 1964-65, six of the eight full-time faculty will be actively engaged in research.

In addition, the Faculty of Dentistry is providing financial support for three members of basic science departments of the Faculty of Medicine. All have had extensive research experience and will be expected to continue research programs in these new posts.

When the new permanent dental facilities are completed it is estimated that about 10 per cent of the dental building proper (about 6,600 square feet) will be identifiable as research space. The Dental Faculty is also financing the addition of 46,600 square feet to the existing basic science department of the Faculty of Medicine, of which 50 per cent will be for research use. The total proposed building program for dentistry will involve about 112,600 square feet. Approximately 30,000 square feet (26 per cent) will be devoted to research activities.

Projecting the personnel needs to 1968, the Dental Faculty at U.B.C. hopes to have 22 full-time and 51 part-time persons on the academic staff. In addition, another 15 to 20 members in the clinical and pre-clinical departments of the Faculty of Medicine will be supported through the Faculty of Dentistry budget. Of the 51 part-time staff of the dental school at least 15 will be half-time. Since the Faculty believes that good teaching and good research are complementary, adequate time will be provided for all full and half-time staff to pursue research and other scholarly activities. Indeed, creative productivity will be as important a criterion for advancement in the Faculty of Dentistry as it is in the rest of the University of British Columbia.

DEPARTMENTS OF PUBLIC HEALTH

A survey of each of the provincial divisions of dental public health in Canada indicated that very little research was being carried out through these agencies. Only two provinces indicated any work being done at all. This research involved about five people part-time. An estimated total expenditure was in the area of \$2,500 through special agents.

REFERENCES

1. Canadian Dental Association. Transactions 1954-55. Research Committee, Appendix B: Summary sheet of dental research in Canada 1954. p. 152.
2. Idem. Transactions 1960. Research Committee, Appendix A: Dental research in Canada 1959. p. 205.
3. Government of Canada. Royal Commission on Health Services. Vol. 1, 1964. Ottawa, Queen's Printer, 1964.

Out of the jaws of death

As usual, the Bard had a word for it. The occasion, "Twelfth Night," arises in connection with the annual observance of April as Cancer Control Month in Canada. It is therefore fitting that a portion of the current issue of the Journal should again be devoted to the topic of oral cancer.

Exactly one year ago a Journal editorial cited the disappointing cure rate following treatment of malignant oral lesions. Despite the relative ease of detection of oral cancer, the majority of these lesions are still not recognized at a time when satisfactory treatment can be accomplished. Patients tend to be unaware of early oral cancer because it is usually painless and does not interfere with the functions of the mouth. Discovery of malignant lesions, therefore, becomes a responsibility of the dentist or physician who are consulted for any reason and thus have the opportunity to perform complete and thorough examinations of the mouth. It is only by their diligence and efforts that oral cancer can be diagnosed early enough to assure cure.

The advent in dentistry of the cytological smear technique has provided the profession with an accurate and valuable aid for the early detection of oral cancer. Last year the Canadian Dental Association joined forces with the National Cancer Institute of Canada to rally dentists in support of this life-saving procedure. Unfortunately, some cytological laboratories misinterpreted this as a mass screening campaign for the detection of oral cancer in asymptomatic patients. These laboratories expressed reservations about their ability to handle the resultant volume of oral cytodiagnostic work.

But, as Thompson clearly indicates in an article in this issue of the Journal, the screening procedure is not the type of application of cytology which is recommended for the detection of cancer in the mouth. It is impractical to scrape the entire surface of the oral mucous membrane. Also the incidence of oral malignancy does not justify a screening approach in patients who have no grossly visible ulcerations of the mucosa.

The most useful application of oral cytodetection is in connection with (1) apparent, though equivocal, mucosal lesions where biopsy may be unwarranted; (2) apparent lesions with a high potential for malignant change (such as leukoplakia); and (3) recurrent or residual malignancy subsequent to previously treated lesions.

Applied this way, no cytological laboratory needs to fear a flood of oral cytodiagnostic work. For, as Thompson so clearly states, "Any established cytological laboratory should be able to cope readily with a limited volume of oral cytological cases." Consequently, there is no reason why provincial oral cytology programs should be stalled.

Oral cancer, though perhaps less common, is also more lethal than some other types of cancer. It would indeed be tragic if dentists were forced to abandon oral cancer cytodetection because of improper application of this procedure or because of any reluctance on the part of cytological laboratories to assess the limited material that would be submitted by dentists.

Drug adverse reaction reporting: a responsibility of every dentist

Two recent articles indicate that 15-20 per cent of all patients in hospitals will experience an adverse reaction to drugs and that the time spent in hospital by these patients will be lengthened by three times.^{1, 2} Approximately five per cent of all admissions to the mentioned centres were due to drug adverse reaction. These figures, in terms of time, energy, money and space, are staggering. But they only reflect patients that had a recognizable symptom. What about patients whose drug reaction symptoms are akin to the disease being treated? What about patients presenting no symptoms at all, except perhaps sudden unexpected death? Obviously, the drug adverse reaction problem is far more serious than we may suspect.

Drug adverse reactions can mimic the whole range of human disease. Therefore any development, however slight, that does not follow the expected course during a specific treatment should be immediately reported. Adverse reactions that occur early in drug usage are usually easily recognized. Reactions that have a more insidious onset and appear later or even after discontinuation of the drug present a greater problem. Vigilant physicians and dentists are the key to the problem. They should be alert to any suspicious departures from the expected course of therapy. One suspicious reaction does not constitute a true adverse reaction; but 50 or 100 such reports emanating from different sources merit further investigation that may reveal a hitherto unknown hazard. Every dentist should therefore report any untoward experiences. The accumulation and processing of such information will result in more complete knowledge of drug safety.

The magnitude and importance of the problem is so great that the World Health Organization has requested all member countries to report government decisions on serious adverse reactions. The Food and Drug Directorate of the Department of National Health and Welfare, in turn, has solicited assistance from hospitals, physicians, dentists and veterinarians for collecting information on drug adverse reactions. A pad of drug adverse reaction reporting forms has been sent to every physician and dentist in Canada. They are requested to complete and return these forms whenever they encounter any untoward drug reaction. This information will be held in confidence.

The mechanism for integration and distribution of the data so obtained is ready at the Food and Drug Directorate. All that is lacking is the link that only physicians and dentists can supply. Through pooling his suspicions with those of others, the dentist will contribute a great deal to unmasking of drug adverse reactions. His reluctance to report, his lack of interest to observe, or his assumption that others will do the job will seriously cripple this most essential program.

1. Schimmel, E. H. The hazards of hospitalization. *Ann. Internal Med.* 60:100, 1964.

2. Cluff, L. E. Studies on the epidemiology of adverse drug reactions. *J.A.M.A.* 188:144, 1964.

As Others See It

Very dangerous situation

Responsible Canadians everywhere will be deeply concerned with the latest developments on the health service front.

The Hall Royal Commission on Health Services and the Canadian Medical Association have managed to set themselves on what looks ominously like a collision course.

The Hall Commission wants a government-operated, tax-supported, compulsory health plan.

The C.M.A. general council at a recent special meeting reiterated its objections to such a scheme and went on to say that if the government does propose a plan like this, "certain minimal conditions should be assured before the medical profession could consider extending co-operation."

[The] C.M.A. has not yet spelled out what it means by the somewhat ominous phrase, "before the medical profession could consider extending co-operation."

The first of these conditions is that doctors must be able to practise partially or wholly outside the plan and patients should be able to utilize the services of such doctors under private arrangements without loss of benefits which have been paid for through taxes and/or premiums.

Hall says that if a doctor practises outside the plan, his patients will have to pay him directly, without reimbursement by the health plan. (One of the six commission members, Dr. D. M. Baltzan of Saskatoon, dissented from his colleagues on this point.) This means that doctors who decide to practise outside will have as patients only those who are willing to pay their doctor in addition to supporting the government plan. So 'freedom' to practise outside the plan is probably much more theoretical than practical.

The commission says there will be no interference with the practice of medicine — only the manner of receiving payment will be altered. But the C.M.A. says that being part of a compulsory system under which they are dependent for their income on a single source of funds will make them, in effect, civil servants.

With Hall and the doctors at opposite poles, the government would be out of its collective mind to ram the Hall proposals through Parliament. An accommodation will have to be reached before any legislation is introduced. There must be no repetition of the Saskatchewan ordeal.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Reduction of Fractured Mandible

To the Editor:

The January Journal contains an article by Antoni et al on the treatment of malunited fracture of the maxilla. I would like to report an example of reduction of a long standing fracture of the mandible. The patient, a male in his late twenties, presented complaining of a developing open bite which interfered with speech and mastication. His complaint began three weeks earlier when, in an inebriated condition, he fell striking the mandible against a concrete gutter.

Clinical examination revealed (1) a full dentition with healthy periodontal support; (2) fracture of the lingual cusps of five teeth (bicuspid and first molars) exposing dentine and exposing the pulp in the maxillary right first bicuspid; (3) premature contact of the third molars causing an open bite (approximately 15 mm.) in the incisor region, and accompanying slight mobility of the mandibular third molars; (4) fracture of the symphysis of the mandible with slight

lateral displacement of the left and right body of the mandible. Radiographic examination revealed fracture of the neck of the right condyle.

The closed reduction technique (as contrasted with interosseous wiring) was the treatment indicated. Continuous interdental wiring was placed on the posterior teeth of both arches and on the anterior teeth of the mandible. Following removal of the bicuspid with exposed pulp, intermaxillary traction

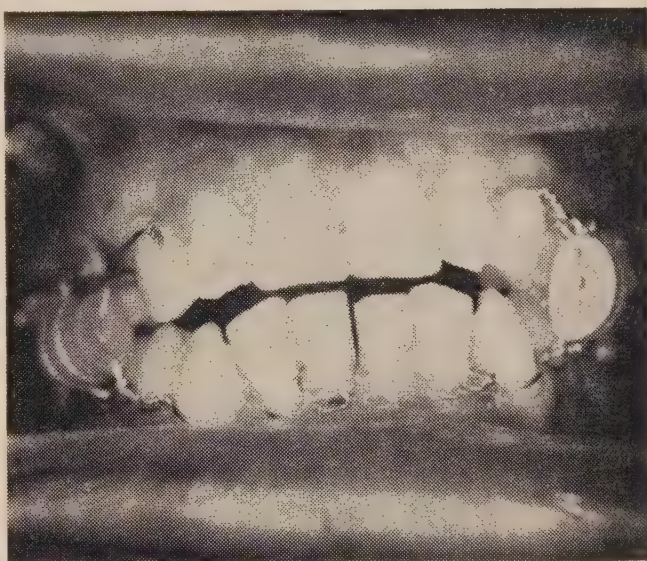


FIGURE 1 Intermaxillary traction utilizing rubber plunger from anesthetic carpule.

was effected by the use of a rubber plunger from an anaesthetic carpule which was wired in a stretched position between arches.

Figure 1 indicates reduction of the open bite after three days. The elastic traction was tightened twice after three day intervals. Molar and incisor wires, placed for additional traction, were not utilized.

After six weeks of immobilization the wires were removed and a slight relapse ensued. Pain and mobility of the mandibular third molars developed. The occlusion was then adjusted by selective grinding of the third molars. Pain and mobility disappeared after two weeks.

The patient was re-examined three months later. There was no pain or mobility of molar teeth. The resulting open bite was approximately 2 mm.

Milton Houpt, D.D.S.,

567 Eglinton Avenue W., Toronto 12, Ont.

Likes New Journal Format

To the Editor:

Your redesigned Journal — cover, contents page, headings, etc. — is very attractive. Congratulations!

Velma M. Child, Secretary,

Council on Journalism,

American Dental Association.

Likes January Editorial

To the Editor:

Upon reading your latest editorial in the January issue I could not refrain from sending this brief comment. The editorial was timely and wise, and laid bare the underlying reasons for some of the problems within dentistry. In my opinion, you effectively express the view that has foresight.

Gordon Nikiforuk, D.D.S., M.Sc.,

School of Dentistry,

University of California, Los Angeles.

Criticizes British National Health Service

To the Editor:

May I bring the following article from the January 29 London *Daily Express* to the attention of Journal readers? Every dentist in Canada should be aware of this problem:

"I am saying farewell to Britain in a mood of sadness and irritation. Like many doctors today, I am leaving the National Health Service to practise my craft in another country. But before I go I should like to tell what is happening to the family doctor and why he is one of a vanishing breed.

"In the country I am going to I shall receive an income adequate at least to save me from constant worry. I shall have enough time to give to my patients' problems; time to read and keep up with medical knowledge; even a little time, perhaps, to give some thought to my personal life. I shall be able to treat my patients as I think best for them and not according to the wishes of a so-called Ministry of Health staffed by non-medical bureaucrats and actuated by political interest and pressure from the Treasury.

"In no country in the world has the standard of medical practice been as high as in Britain. Yet her doctors are the worst paid of any in the world.

"Let me tell you what life is like for the general practitioner under the National Health Service.

"I have a one-man practice of 3,000 people, which I started from nothing 30 years ago. My working day starts at 8.30 a.m. and finishes, if I am lucky, at 9.00 p.m.

"I do two hours in surgery morning and evening, and the rest of the day, almost without a break, is spent in making visits. I work between 60 and 70 hours a week.

"On average, I am called out from my bed two nights a week. I am required by my contract, under pain of heavy penalties, to be available to each one of these 3,000 patients 24 hours a day for 365 days a year.

"Many of the cases I am called to are trivial. But many are matters of life or death. I cannot afford to make mistakes. Any patient can make a complaint about me to the local Executive Council. There were something like 600 such complaints against doctors last year, the vast bulk of them utterly trivial. But I have no redress against a patient who offends me or wastes my time.

"For this work, and for the heavy responsibility it entails, I am paid at a basic scale of 5s. 1½d. a quarter — in arrears — for each person on my list. I may have to visit a patient dozens of times, perhaps save his life, during those three months. But my reward is still the price of a packet of cigarettes. . . .

"I have not been able to afford a proper holiday for three years. First I must find a locum [tenens] — no easy task. Then I must pay him 30 guineas a week, keep him, and provide him with a car. If he makes a mistake in diagnosis or treatment during my absence, I am responsible.

"Since the start of the National Health Service I have had 16 years of desperate financial insecurity. My eldest son wanted to become a doctor, like his father and grandfather before him. I could not afford to keep him for seven years, and he did not win a scholarship. . . .

"There'll be no holiday for me this summer. Instead, with my wife and our two younger children, I shall be on my way to New Zealand — and a new life — at the age of 54. To practise medicine as it was meant

to be practised. With time to examine my patients, to give them my best, and to be paid what that best is worth."

M. A. Kamienski, D.D.S.,
2967 Kingston Road,
Scarborough, Ont.

Appreciates Book Review

To the Editor:

It is indeed a pleasure to avail myself of this opportunity of writing to you, in order to convey my sincere appreciation for the

very kind commentary on my book *Historia de la Odontología y su Ejercicio Legal*, which appeared in the January issue of the Journal.

Regarding the final paragraph of the review, I am happy to inform you that the publishing house of Charles C. Thomas, Springfield, Illinois, U.S.A., has undertaken to bring out the first English edition of my book. I am confident that this version will meet with the same professional and lay interest in the English speaking world as has been sparked throughout Latin America and Spain.

Salvador Lerman,
Lavalle 2905, Buenos Aires, Argentina.

Are you going to Quebec for the C.D.A. National Convention in May? If so, you and your family may want to visit the huge aquarium on the city's outskirts. Here you will find many varieties of fresh and salt water fish. It also has a beautiful park and picnic grounds.



Nouvelles du Congrès national

Copies préliminaires des rapports destinés au Conseil des Gouverneurs sont maintenant disponibles

Un nombre limité de rapports de bureaux, comités et conseils devant être présentés lors de la réunion annuelle du Conseil des Gouverneurs à Québec, seront préalablement disponibles au Secrétariat de l'Association dentaire canadienne. Les copies sont distribuées d'habitude aux membres dirigeants participant à la réunion. Les autres membres de l'A.D.C. qui seront *présents* à cette réunion et qui désirent des copies préliminaires des rapports devront écrire au secrétaire-adjoint de l'Association dentaire canadienne avant le 1er mai.

Transplantation, implantation et la structure de l'émail seront l'objet de démonstrations au Congrès national

Les dentistes qui se proposent d'assister au Congrès national de l'Association dentaire canadienne, à Québec, pourront voir un film en couleurs illustrant les plus récents procédés de transplantation et d'implantation dentaire ainsi qu'une présentation scientifique originale utilisant des modèles mécaniques et des micrographies électroniques démontrant une nouvelle théorie sur le concept de la structure de l'émail des dents.

Le film en couleurs sur la transplantation dentaire est intitulé "Transplantation Autogène d'une Dent." Le Dr Chester Fong, de la Faculté de chirurgie dentaire de l'Université de Californie démontrera

tout le procédé depuis l'énucléation jusqu'à la transplantation.

Le film sur l'implantation dentaire, aussi en couleurs, présente une méthode du Dr E. J. Lattig et du Dr T. C. Lee de San Francisco. Le film illustre en détail tout le procédé depuis l'exposition de la crête osseuse et sa remise en forme jusqu'à la mise au point et à l'implantation de la prothèse.

Un 'stand' spécial illustre le nouveau concept de la structure de l'émail qui abolit la théorie selon laquelle l'émail est composé de tiges hexagonales séparées par une substance posée entre les tiges.

Les films sur la transplantation et l'implantation seront projetés à 14 h., le lundi 31 mai et le mercredi 2 juin, à l'Institut Canadien. Les maquettes sur la structure de l'émail seront exposées au Château Frontenac pendant tout le congrès.

L'Association

Réunion du Conseil Exécutif

Les membres du Conseil exécutif de l'Association dentaire canadienne durent étudier un agenda bien rempli chacun des quatre jours que dura l'assemblée de Toronto, du 15 au 18 février.

Le rapport du comité spécial, formé par le Conseil exécutif, sur les recommandations de la Commission Hall fut soumis. Ce comité, dont le président est le docteur R. A. Clappison, assisté des docteurs E. R. W. Bilkey et P. G. Anderson, de Toronto, fut appelé à donner connaissance de son rapport aux groupes dont la collaboration

et les suggestions avaient été précédemment requises concernant les recommandations de la Commission royale d'enquête sur les services de santé.

L'exécutif aussi résolut de refuser la demande de l'Association dentaire du Yukon à faire 'partie de l'A.D.C.' (demande non conforme à la constitution le Yukon n'étant pas une province);

Il accepta d'envoyer un délégué à la Conférence canadienne sur le vieillissement, qui aura lieu à Toronto, les 24-28 janvier, 1966;

Il écouta lecture d'un rapport sur le progrès du Fonds canadien pour l'enseignement dentaire;

Il entendit aussi le rapport annuel au sujet des Plans d'assurance-retraite de l'A.D.C.;

Il reçut un rapport des progrès à l'égard de la fondation projetée du Collège royal des chirurgiens dentistes du Canada et résolut de ne pas établir d'autres sections de l'A.D.C. ni d'accréditer d'autres spécialités avant que la fondation du Collège royal sera déterminé;

Il établit une politique concernant la publicité des produits commerciaux. Par cette politique, l'A.D.C. n'approuvera ni ne sollicitera l'emploi de déclarations du Council on Dental Therapeutics de l'Association dentaire américaine pour des fins publicitaires des produits dentaires commerciaux vendus au Canada;

Il adopta un budget d'en deçà de \$332,000 pour l'année 1966.

Le Conseil autorisa les nominations officielles suivantes: R. G. Ellis, de Toronto, président du congrès national de 1967; Roger Charette, de Montréal, président du congrès national de 1969; D. W. Gullett, de Toronto, représentant de l'A.D.C. à la 53e séance annuelle de la Fédération dentaire internationale qui aura lieu à Vienne, du 26 juin au 3 juillet, et K. J. Paynter, de Toronto, représentant dentaire au Comité médical consultatif de la Ligue de la santé du Canada.

Le secrétaire de l'Association, W. G. McIntosh, fut nommé (1) trésorier national de la Fédération dentaire internationale au Canada, (2) représentant dentaire au Comité consultatif des services d'urgence de santé du Ministère de la santé nationale et du bien-être social et

(3) directeur exécutif du *Journal de l'Association dentaire canadienne*.

Le Conseil exécutif a aussi désigné un sous-comité devant étudier dans tous leurs aspects, les sociétés de protection légale pour les dentistes. Les membres de ce sous-comité sont J. M. Chamard, président; J. P. Coupland; et A. H. Crowson, aviseur.

Réunion du Conseil de l'hygiène publique

Le Conseil de l'hygiène publique s'est réuni au secrétariat de l'Association dentaire canadienne, les 1er et 2 février. Des rapports furent présentés sur les sujets suivants: l'enquête statistique sur l'hygiène dentaire au Canada; la classification internationale des maladies, promue par l'Organisation mondiale de la santé; une proposition d'enquête sur l'hygiène dentaire publique au Canada et des études de la formation et de l'utilisation d'auxiliaires dentaires par le Corps dentaire royal canadien.

Le président du conseil A. R. S. Gray de Calgary assistait à la réunion ainsi que Yves Lafleur de Montréal; B. J. O'Meara de Charlottetown; K. F. Pownall de Toronto; et D. J. Yeo de Vancouver.

La bibliothèque de l'A.D.C. s'accroît toujours

La croissance de la bibliothèque du quartier général de l'Association dentaire canadienne met en évidence le nombre grossissant des périodiques reçus régulièrement. La liste, récente, indique 298 périodiques reçus et à la disposition des membres de l'A.D.C. qui désirent les emprunter. Ces publications comptent les principales revues françaises, suisses, et belges ainsi que presque toutes les publications de l'Amérique du Nord. Plus de 3,500 volumes dentaires et médicaux sont contenus dans la bibliothèque et sont aussi disponibles par la poste. Mlle Colette Gagnon, autrefois bibliothécaire et réceptionniste, doit maintenant donner tout son temps à la bibliothèque grandissante. Les contributions aux Fonds de la bibliothèque pour l'achat de nouveaux

livres sont sujettes à déductions de l'impôt sur le revenu.

Chronique internationale

Le docteur Gullett nommé vice-président de la F.D.I.

Le docteur Don. W. Gullett, ancien secrétaire de l'Association dentaire canadienne et conseiller de la Fédération Dentaire Internationale depuis 1958, fut nommé vice-président de la Fédération, lors du congrès de San Francisco, en novembre dernier.

Programme préliminaire pour le congrès de la F.D.I. à Vienne

Le programme préliminaire suivant a été annoncé pour le 53 ième congrès annuel de la Fédération dentaire internationale qui aura lieu au Hofbourg de Vienne, les 26 juin-3 juillet:

SAMEDI, LE 26 JUIN

- 9.00 hres a.m. Commission des services dentaires des forces armées
- 9.00 hres a.m. Comité des publications
- 10.30 hres a.m. Comité de l'assemblée scientifique
- 2.00 hres p.m. Réunion générale

DIMANCHE, LE 27 JUIN

- 9.00 hres a.m. Séance particulière de l'assemblée générale suivie d'une conférence de presse internationale
- 2.00 hres p.m. Commission des statistiques buccales et classification
- 2.30 hres p.m. Comité de référence A
- 4.00 hres p.m. Comité de référence B
- 8.00 hres p.m. Réception du président en l'honneur des membres actifs de la F.D.I.

LUNDI, LE 28 JUIN

- 9.30 hres a.m. Cérémonie d'ouverture
- 2.00 hres p.m. Commission des matériaux dentaires et thérapeutiques
- 2.00 hres p.m. Commission régionale pour l'Europe
- 2.00 hres p.m. Conseil éditorial
- 7.30 hres p.m. Réception convoquée par le maire de Vienne

MARDI, LE 29 JUIN

- 9.00 hres a.m. Programme scientifique
- 2.30 hres p.m. Programme scientifique
- 2.00 hres p.m. Réunion des trésoriers nationaux
- 8.00 hres p.m. Soirée de gala au Grand Opéra de Vienne

MERCREDI, LE 30 JUIN

- 9.00 hres a.m. Conseil B
- 8.30 hres a.m. Départ pour la Wachau (autocar ou bateau)
- 8.00 hres p.m. Représentation de gala de l'Ecole espagnole d'équitation

JEUDI, LE 1ER JUILLET

- 9.00 hres a.m. Programme scientifique
- 2.30 hres p.m. Programme scientifique
- 2.00 hres p.m. Sous-comité sur l'histoire dentaire
- 2.00 hres p.m. Conférence militaire
- 8.00 hres p.m. Concert présenté par la chorale des garçons de Vienne dans le Hofbourg

VENDREDI, LE 2 JUILLET

- 9.00 hres a.m. Programme scientifique
- 2.30 hres p.m. Programme scientifique
- 2.00 hres p.m. Commission des services dentaires des forces armées
- 8.00 hres p.m. Banquet à l'hôtel "Vienne Intercontinental"

SAMEDI, LE 3 JUILLET

- 9.00 hres a.m. Assemblée générale B
- 3.00 hres p.m. Conseil C
- 7.00 hres p.m. Dîner accompagné de musique et vins au "Wiener Heuriger"

Les séances scientifiques de mardi, le 29 juin, jeudi, le 1er juillet et de vendredi 2 juillet, seront dédiées à l'endodontie; rétablissement par prothèse fonctionnelle; et maladies dentaires dans tout l'organisme. Des traductions simultanées en français, anglais et allemand seront pourvues. Une grande exposition industrielle aura aussi lieu dans le Hofbourg.

Parmi les événements sociaux seront inclus des visites des sites historiques et des musées de Vienne, une tournée du Hofbourg de Vienne qui est la résidence du président de l'Autriche et une excursion au Wiener Wald (la Forêt de Vienne). Des événements spéciaux sont aussi disposés pour les dames.

Plus ample information à l'égard des séances de la F.D.I. peut être obtenue du secrétaire général, G. H. Leatherman, 35

Devonshire Place, Londres W.1, Angleterre. Les dentistes désirant participer aux programmes scientifiques devront se procurer des formules de demande en écrivant au Comité d'organisation, 53 ième Congrès annuel de la F.D.I., Weihburggasse 10-12, Vienne 1, Autriche.

Congrès d'endodontie en Espagne

Les détails du troisième colloque annuel sur l'endodontie ont été annoncés par Jose Navarro Ferrero de Barcelone, Espagne. Cette assemblée internationale qui durera sept jours aura lieu à Barcelone du 2 au 8 mai. Les dentistes canadiens y sont invités. Des séances scientifiques sur l'emploi des corticostéroïdes en endodontie, la dévitalisation de la pulpe, le curage chimique et biologique des canaux radiculaires et l'enzyme-thérapie seront supplémentées par des démonstrations cliniques et des cliniques de table.

Des activités intéressantes sont aussi au programme. Plus ample information peut être obtenue au quartier général de l'Association dentaire canadienne.

Le président américain accorde son appui aux soins pour la santé de l'enfance

Le 7 janvier, le président Lyndon B. Johnson, dans un message spécial au Congrès des Etats-Unis, a de nouveau proposé un programme de santé pour les vieillards rattaché à la Sécurité sociale et promis son appui continu à l'éducation médicale et dentaire. Pour améliorer la santé des enfants, le président a aussi proposé une loi permettant au gouvernement fédéral de participer aux frais des soins médicaux et dentaires pour les enfants des familles pauvres.

Il recommanda particulièrement:

Des subventions en aide aux frais d'opération de base des facultés de profession sanitaire;

De subventionner des programmes permettant à ces facultés d'expérimenter des méthodes d'enseignement;

Des bourses d'études pour les étudiants en médecine ou chirurgie dentaire qui ne pourraient, sans aide, ni compléter, ni même commencer leur entraînement;

D'augmenter l'emploi d'un personnel professionnel en matière de santé;

D'utiliser d'avantage des techniciens entraînés et des auxiliaires;

De développer et d'améliorer les programmes d'éducation pour le personnel de la santé, professionnel ou auxiliaire.

Le président recommanda aussi la poursuite et l'augmentation de la participation du gouvernement fédéral aux recherches pour la santé.

Site choisi pour le prochain congrès américain

L'Association dentaire américaine a choisi Las Vegas, Nevada, comme lieu de son congrès annuel, qui aura lieu l'automne prochain. Les autres villes choisies pour des congrès futurs seront: Dallas en 1966; Washington en 1967; Miami Beach en 1968; New-York en 1969; Las Vegas, de nouveau, en 1970, et Atlantic City en 1971.

Les canadiens sont invités au congrès dentaire de l'état de New-York

Le congrès annuel de 1965 de la Société dentaire de l'état de New-York aura lieu à l'hôtel New York Hilton, New-York, du 2 au 5 mai. Les dentistes canadiens sont invités à profiter de l'occasion de ces séances scientifiques pour visiter aussi l'Exposition mondiale de New-York qui commencera le 21 avril.

De plus amples informations peuvent être obtenues du secrétaire de la Société dentaire de N.Y., P. T. Phillips, 30 East, 42nd Street, New-York, 10017, E.U.

Les dentistes canadiens invités à Hawaii

Les dentistes canadiens sont invités à assister au 63ième congrès annuel de l'Association dentaire de l'état d'Hawaii, à Honolulu, qui aura lieu les 14-18 novembre. Ce congrès qui sera tenu immédiatement après la séance annuelle de l'Association dentaire américaine, à Las Vegas, sera connu sous le nom de Pacific International Dental Conference. Des séances scientifiques intéressantes et divers programmes sociaux sont prévus. Les cliniciens canadiens qui désirent participer à ce congrès sont bienvenus. Plus ample information peut être obtenue en

écrivait à E. N. Fujimoto, Room 291, Alexander Young Building, Honolulu, Hawaii 96813.

Organismes dentaires

Les sociétés dentaires de l'Ontario approuvent la réorganisation de l'O.D.A.-R.C.D.S.

Une grande majorité des sociétés dentaires locales, en Ontario, ont donné leur approbation au projet de réorganisation du Collège royal des chirurgiens dentistes de l'Ontario (R.C.D.S.) et de l'Association dentaire de l'Ontario (O.D.A.). Des recommandations à cet effet, sont contenues dans un rapport soumis à la fin de 1963 par Woods, Gordon et Cie, réclamant la transmission à l'O.D.A. de toutes fonctions ne concernant pas les licences et les règlements de la profession (J.A.D. Canad. 30:385, juin 1964). Les directeurs du R.C.D.S. à leur réunion du 26 novembre 1964, ont donné des instructions au comité de liaison de l'O.D.A.-R.C.D.S. de préparer un projet de constitution et de règlements pour la reconstruction projetée de l'Association dentaire de l'Ontario.

En Ontario: cliniques dentaires préconisées pour les revenus limités

Le Comité des services dentaires du Collège royal des chirurgiens dentistes de l'Ontario (R.C.D.S.) a recommandé que des cliniques dentaires pour les gens aux revenus limités soient instituées par un service du gouvernement, ayant un personnel de dentistes et auxiliaires rémunérés.

Le Conseil d'administration du R.C.D.S. avait précédemment demandé au comité d'étudier des méthodes pourvoyant aux soins dentaires pour cette partie de la population. Le comité indiqua, en octobre 1964, que de telles cliniques pouvaient être tenues dans les hôpitaux dans des immeubles séparés ou même ambulantes. Des essais pratiques furent estimés nécessaires pour l'institution de services de ce genre.

L'Association du Manitoba favorise l'incorporation des techniciens de laboratoire

L'Association dentaire du Manitoba a recommandé que les techniciens de laboratoire de la province soient incorporés et contrôlent leur propre enregistrement des membres, des qualifications et des normes d'entraînement. La proposition était contenue dans un mémoire présenté au Comité spécial de la Législature du Manitoba chargé d'établir une politique de santé dentaire pour cette province.

Une autre proposition de l'Association demandait de faciliter l'entraînement des auxiliaires dentaires.

Service de prothèses dentaires en Colombie britannique

Les dentistes de la Colombie britannique ont organisé des cliniques pour venir en aide au public en lui offrant à prix réduits ce qu'un journal a appelé "des prothèses convenables mais sans fioritures." Le Collège des chirurgiens dentistes de la Colombie britannique a favorisé ces cliniques par l'entremise de l'Académie de dentisterie de la Colombie britannique. G. I. Creasy de Vancouver, est le directeur des cliniques. Le prix fixe est \$49 pour une prothèse supérieure ou inférieure, \$96 pour une prothèse complète. Ce service, instauré d'abord à Vancouver, et projeté aussi pour plusieurs autres régions, a pour but de procurer des soins professionnels à des prix capable de combattre les activités des denturistes.

Corps dentaire royal canadien

Le brig. Baird assiste à des réunions dentaires

Le brig. K. M. Baird a participé, du 19 au 21 janvier, aux séances du Conseil d'enseignement de la Massachusetts Dental Society à Boston. A cette occasion, il a présenté un travail sur l'emploi du personnel dentaire auxiliaire dans le Corps dentaire royal canadien.

A une réunion du Comité des services auxiliaires de l'Association dentaire canadienne tenue à Toronto, le 22 janvier, le brig. Baird a présenté un rapport sur les résultats des études qui sont faites présentement au sein du Corps dentaire sur l'utilisation efficace du personnel dentaire auxiliaire.

Voyages officiels du col. Millar et du lt-col. Protheroe

Le col. I. A. L. Millar, sous-directeur général des Services dentaires pour les Forces armées du Canada, représentait le directeur général, le brig. K. M. Baird, à la conférence qui eut lieu du 1er au 3 février dernier, à Camp Borden (Ontario), en vue d'étudier les problèmes que pose l'intégration de l'instruction dans les Forces armées.

Le lt-col. D. H. Protheroe, de l'Ecole du Corps dentaire du Camp Borden, a assisté à la réunion annuelle du Conseil d'hygiène publique de l'Association dentaire canadienne, tenue les 1er et 2 février derniers à Toronto, et au cours de laquelle il a fait une revue du programme du Corps dentaire relativement à son personnel auxiliaire.

Formation professionnelle

Les officiers dont les noms apparaissent ci-dessous ont suivi un cours de cinq semaines (15 février au 19 mars) pour le soin des blessés et les soins cliniques, donné à l'intention des officiers à l'Ecole du Corps dentaire du Camp Borden (Ontario): le lt-col. N. A. Butcher, Quartiers généraux de la 13e Compagnie dentaire, Trenton (Ontario); le lt-col. J. G. Butler, HMCS Cornwallis (Nouvelle-Ecose); le maj. C. Brown, Quartiers généraux, de la 14e Compagnie dentaire, Winnipeg; le maj. H. J. Cashin, 1er Dépôt du personnel, Parc Windsor, Halifax; le maj. J.-L.-Y. Cyrenne, Base de l'A.R.C., Bagotville (Qué.); et le maj. D.-R. Girard, 25e Dépôt central des magasins militaires, Longue-Pointe (Qué.).

Le maj. D. H. Skinner de Camp Peta-wawa (Ontario) a suivi, du 1er au 12

février, le cours de chirurgie buccale du docteur Cogswell donné à la base de l'Aviation américaine de Colorado Springs (Colorado).

Le lt-col. C. M. Cornish d'Ottawa a suivi, du 8 au 12 février, un cours de pathologie buccale à l'Ecole dentaire de la Marine américaine à Bethesda (Maryland).

Cours spéciaux

Grâce à l'Ecole dentaire de la Marine Américaine à Bethesda, les officiers du Corps dentaire royal canadien peuvent suivre des cours spéciaux portant sur l'endodontie, la dentisterie opératoire, les couronnes et les ponts, le diagnostic buccal, la périodontie et la prothèse complète et partielle.

Ces cours ne sont pas destinés à remplacer le cours post-scolaire général ni les autres cours déjà existants, mais à permettre aux officiers dentistes d'avoir tous les renseignements nécessaires sur les sujets qui les intéressent plus particulièrement. Jusqu'à présent 106 officiers du Corps dentaire ont bénéficié de ces cours, qu'ils ont suivis pendant leurs loisirs. Au terme de chacun de ces cours, l'Ecole décerne le certificat approprié.

Mutations récentes

Au cours du mois de janvier, les officiers-dentistes suivants ont été affectés à des nouveaux postes:

Le **cap. Y. Kamachi**, de l'Ecole royale canadienne du génie militaire, de Vedder-Crossing (C.B.), a été affecté, à la 35e Unité dentaire de campagne, 1ière Division aérienne de l'A.R.C., en Europe.

Le **cap. D. R. O'Hara** a permuté de la base aérienne de l'A.R.C., de Rockcliffe, à la 4e Compagnie dentaire de campagne, en Allemagne.

Les nominations ci-après ont eu lieu au cours du mois de février:

Le **cap. L.-J.-C. Giguère**, qui se trouvait à la 11e Compagnie dentaire, a été affecté à la 15e Compagnie dentaire pour

travailler à la base de l'A.R.C. de Bagotville (Qué.);

Le **cap. P. S. Wade**, qui était à la 15^e Compagnie dentaire, a été affecté à la 11^e Compagnie dentaire pour travailler à la caserne Workpoint d'Esquimalt (Colombie britannique).

Economie

Estimé des revenus des dentistes pour 1963

Une analyse préliminaire, exécutée par le Bureau des recherches économiques de l'Association dentaire canadienne, donne un estimé provisoire des revenus nets pour 1963 des dentistes en pratique privée.

Les sommes (sujettes à révision) par province sont: Terre-Neuve \$14,000, Ile-du-Prince-Edouard \$12,800, Nouvelle-Ecosse \$12,100, Nouveau-Brunswick \$13,500, Québec \$12,000, Ontario \$15,700, Manitoba \$13,800, Saskatchewan \$16,600, Alberta \$16,100 et Colombie britannique \$16,600. La moyenne des revenus nets pour tout le Canada était de \$14,900.

Revenu net et dépenses des dentistes canadiens

Le Bureau des recherches économiques de l'Association dentaire canadienne signale que des estimés préliminaires de la moyenne des revenus nets et des frais de la pratique dentaire privée, des dentistes canadiens, sont maintenant disponibles d'après la troisième enquête de la pratique dentaire au Canada. Les moyennes par article de dépense, et le pourcentage que chaque item représente du revenu intégral sont (revenu intégral \$27,140=100.0 pour cent; revenu net \$14,880=55.0 pour cent; dépenses \$12,260=45.0 pour cent); le loyer du cabinet \$1,410, 5.0 pour cent; eau, électricité, téléphone \$380, 1.5 pour cent; assurance \$180, 0.5 pour cent; frais de laboratoire \$2,740, 10.0 pour cent; fournitures dentaires, médicaments \$2,000, 7.5 pour cent;

salaires \$3,100, 11.5 pour cent; bénéfices supplémentaires \$65, 0.5 pour cent; voyages, cotisations, journaux, frais de licence, \$380, 1.5 pour cent; dépréciation \$700, 2.5 pour cent; autres frais divers \$1,245, 4.5 pour cent.

Les dentistes de 35 à 39 ans, gagnent le plus

Une analyse préliminaire des rapports de la dernière enquête sur l'exercice dentaire, menée par le Bureau des recherches économiques de l'Association dentaire canadienne, indique que de tous les dentistes pratiquant à plein temps, en 1963, ceux qui étaient âgés de 35 à 39 ans ont gagné plus que les autres. Les revenus nets des dentistes vont en augmentant jusqu'à cet âge et diminuent fermement après l'âge de 40 ans. Les chiffres, (sujets à révision) par groupe d'âge, sont comme suit: de 25-29 \$12,515; de 30-34 ans \$16,611; de 35-39 ans \$18,044; de 40-44 ans \$17,111; de 45-49 ans \$16,095; de 50-54 ans \$15,821; de 55-59 ans \$12,862; de 60-64 ans \$12,508; de 65-69 ans \$9,984; de 70-74 ans \$8,739; soixante-quinze ans et plus \$6,438.

La publication des résultats de cette enquête sera entreprise aussitôt que possible. Il est entendu que ce rapport sera divisé en plusieurs chapitres afin d'éviter les retards qu'occasionnerait l'analyse de tous les chiffres.

Les auxiliaires dentaires employées de plus en plus chez les dentistes canadiens

L'enquête de 1963 sur les services dentaires a révélé que 87 pour cent des dentistes canadiens emploient des assistantes dentaires à plein temps ou à temps partiel. Seulement sept pour cent d'entre eux ont des assistantes à temps partiel, 61 pour cent ont une seule assistante à plein temps et 19 pour cent emploient plus d'une assistante. Il n'y avait que 48 pour cent des dentistes répondant à l'enquête, en 1958, qui employaient une assistante et que deux pour cent en avaient deux.

L'analyse préliminaire de l'enquête indique en plus que des secrétaires et des réceptionnistes à plein temps ou à temps

partiel sont employées chez 22 pour cent des dentistes. Six pour cent des dentistes canadiens emploient aussi des techniciens de laboratoire dentaire dans leurs cabinets. Les hygiénistes dentaires ne sont employées que chez quatre pour cent des dentistes et trois pour cent d'entre eux ne les emploient qu'à temps partiel.

Développement au Canada des corporations provinciales pour les plans dentaires pré-payés

Les plus récents rapports démontrent que la situation actuelle des corporations des services dentaires de chaque province est comme suit:

Terre-Neuve: Très peu d'intérêt. Cette province ne pourrait opérer un plan de services dentaires qu'en coopération avec les autres provinces maritimes.

Ile-du-Prince-Edouard: Tout projet d'entreprise d'une corporation de services dentaires dans l'Ile-du-Prince-Edouard, fut mis de côté dans l'espoir qu'une telle corporation sera éventuellement formée pour toutes les provinces maritimes.

Nouvelle-Ecosse: Durant 1964, une loi fut passée à la Législature pour incorporer une corporation provinciale; mais elle n'est pas entrée en opération.

Nouveau-Brunswick: Le sujet est à l'étude. Un rapport sera donné cette année.

Québec: Une loi est passée, mais la corporation est inactive. On surveille les développements dans les autres provinces.

Ontario: Pas de corporation provinciale, et peu d'espoir d'en obtenir.

Manitoba: On envisage la fondation d'une corporation, mais l'entrée en action est peu possible dans un prochain avenir.

Saskatchewan: Le sujet est à l'étude.

Alberta: Une corporation provinciale fut incorporée sous la loi des sociétés en 1964. Cette corporation n'a pu trouver un groupe intéressé à un plan de soins dentaires pré-payés.

Colombie britannique: Jusqu'à maintenant, c'est cette province qui a fait le plus grand progrès. L'Association de services dentaires de la Colombie britannique possède un administrateur à plein temps qui s'efforce d'intéresser un groupe à son projet.

Les dentistes demandent la parité aux médecins dans les contrats d'assurance-santé

En novembre dernier, lors de leur congrès annuel à San Francisco, les membres délégués de l'Association dentaire américaine ont approuvé une résolution soutenant le droit du dentiste d'être rémunéré pour les soins de chirurgie buccale compris dans les contrats d'assurance-santé.

La résolution déclare "que les agences propres à l'Association dentaire américaine accélèrent leurs efforts pour enrayer des contrats d'assurance-santé et des contrats de services de santé les restrictions qui, directement ou par l'interprétation administrative, permettent aux assureurs de déterminer leur responsabilité à l'égard des services ou des opérations dans la bouche, en se basant sur le caractère du diplôme professionnel et de licence octroyée à celui qui rend ces services.

L'A.D.A. autorise la création d'un organisme national pour coordonner le fonctionnement des corporations de services dentaires

Les diverses corporations de services dentaires des états américains pourront participer à des contrats nationaux, grâce à la création d'une agence nationale autorisée par l'Association dentaire américaine lors de son cent cinquième congrès annuel en novembre dernier, à San Francisco.

On prévoit les fonctions suivantes pour cette agence:

Assurer que le développement de plans dentaires pré-payés, au niveau national, ne nuira aucunement au caractère de l'exercice dentaire privé;

Rendre accessible aux corporations de services dentaires actuelles, l'assistance technique nécessaire;

Mener des programmes de recherches et pourvoir au mécanisme d'échange d'informations afin d'éviter de doubler les frais des programmes d'essai;

Voir à ce qu'une liaison active existe entre les agences nationales telles que l'agence nationale de la Croix bleue et l'Ecusson bleu (services médicaux) et;

Assumer le rôle d'agent de coordination en développant des méthodes effi-

caces pour favoriser les programmes de plans dentaires pré-payés entre les états.

En recommandant la création d'une agence nationale, le Conseil d'hygiène dentaire de l'A.D.A. établit que des corporations de services dentaires de plusieurs états ont été consultées par des industries de grande envergure et par des syndicats en rapport avec le champ d'application des soins dentaires pré-payés pour les employés situés dans plus d'un seul état. Toutefois, les lois des différents états n'ont pas encore permis qu'une corporation de services puisse coordonner son champ d'application de façon à franchir les frontières de son état.

L'agence de coordination, connue généralement sous le nom de 'National Association of Dental Service Plans' (NADSP), agirait indépendamment de l'A.D.A.

Les règlements de la NADSP stipuleront que la majorité de l'exécutif soit composée de dentistes qualifiés.

L'A.D.A. refuse le 'Plan de responsabilité individuelle'

Une résolution demandant l'approbation de l'Association dentaire américaine d'un plan de soins dentaires pré-payés, appelé "Plan de Responsabilité Individuelle" (IRP) a été rejetée par les membres délégués de l'A.D.A. à leur congrès annuel qui eut lieu à San Francisco, en novembre dernier. Les raisons sont les suivantes:

"L'IRP n'est pas un plan pré-payé, mais une méthode par laquelle un dentiste présente des comptes, à un assuré, sur des formules imprimées de l'IRP, qui ne contiennent aucun détail des soins prodigués, justifiant ces honoraires. . . .

"Le conseil d'hygiène dentaire de l'A.D.A. a observé que les formules de l'IRP avaient été évaluées et trouvées inutilisables par la Corporation des services dentaires de la Californie, le Ministère du bien-être social de la Californie qui administre les programmes dentaires pour les gens aidés par l'Assistance publique, et le Conseil d'assurance-santé qui groupe la plupart des plus importants organismes d'assurance-santé.

"La formule de l'IRP a été récemment rejetée dans une décision de la Cour du comté Orange de la Californie."

Dans ses commentaires sur la résolution de l'IRP, un comité du conseil exécutif de l'A.D.A. a rapporté:

"Le 28 août, 1964, le juge Howard C. Cameron de la Cour suprême de la Californie, rendit une décision dans une cause par laquelle un dentiste utilisa des formules de l'IRP pour ses comptes et refusa l'emploi des formules prescrites par l'administration qui était responsable des paiements. Le juge a sanctionné le droit des administrateurs d'un fonds bénéficiaire, d'exiger que les formules prescrites soient remplies par l'assuré et son dentiste comme étant une nécessité préalable aux paiements par le Fonds pour les frais de services dentaires rendus."

Le Conseil est d'opinion que son approbation doit être refusée à un plan qui contraint à l'usage de formules qui ne sont acceptables ni par organismes d'assurances ni par la Cour.

Hygiène publique

Comité consultatif d'hygiène dentaire établi à Ottawa

Un comité consultatif d'hygiène dentaire a été établi par le Gouvernement fédéral pour aider et aviser le Ministère de la santé nationale et du bien-être social. Des représentants des ministères de la santé des diverses provinces, des professions sanitaires et des associations professionnelles formeront un comité de 18 membres nommés par le ministre fédéral. Ces nominations seront pour un terme de trois ans.

La principale responsabilité du comité sera d'aider, d'aviser et de faire des suggestions en matières d'hygiène et de services dentaires au Canada. Les travaux du comité seront exécutés en coopération avec les organismes professionnels et autres associations intéressées à l'amélioration des soins et de l'hygiène dentaires.

En annonçant l'établissement de ce comité, le 19 février dernier, l'honorable Judy LaMarsh, Ministre de la santé nationale et du bien-être social, remarqua: "La création de ce comité indique l'intérêt croissant pour le maintien et le développement de standards toujours plus élevés en hygiène dentaire au Canada. Le comité avancera et facilitera la coopération qui existe déjà entre les autorités

provinciales et pourvoira à l'échange d'informations parmi ceux qu'intéresse l'hygiène dentaire des canadiens."

Les nominations à ce comité seront publiées sous peu. La publication sera suivie de la première réunion du comité à Ottawa.

Le docteur Connor nommé conseiller de la F.D.I.

Lors de la cinquante-deuxième réunion annuelle de la Fédération dentaire internationale à San Francisco, en novembre dernier, R. A. Connor, chef de la Division de l'hygiène dentaire du Ministère de la santé nationale et du bien-être social, à Ottawa, fut élu conseiller public de la Fédération dentaire internationale. Cette nomination est pour trois ans.

Réunion des dentistes hygiénistes, à Edmonton

Les dentistes hygiénistes du Canada se réuniront à Edmonton lors du congrès annuel de l'Association canadienne de l'hygiène publique (A.C.H.P.) qui aura lieu du 21 mai au 3 juin.

Les progrès mondiaux dans l'hygiène publique et dentaire seront les sujets choisis pour la section dentaire de la A.C.H.P. Plus amples informations peuvent être obtenues du président de la section dentaire du congrès: A. T. Salter, Government of the Province of Alberta, 303 Administration Bldg., 109 and 98 Avenues, Edmonton, Alberta.

Fluoration

La ville d'Ottawa vote en faveur de la fluoration

Parmi les récents plébiscites, la plus importante victoire de la fluoration nous vient de la capitale du Canada, Ottawa. Renversant la décision négative d'il y a deux ans, les électeurs d'Ottawa ont approuvé la fluoration par un vote de 58,234 contre 36,079, en décembre dernier. Deux autres villes de l'Ontario qui avaient re-

fusé la fluoration, il y a deux ans, ont aussi approuvé cette mesure au récent plébiscite. St-Thomas a voté en faveur, 3,792, contre 3,055. Le résultat à Belleville était pour la fluoration 2,498, contre 1,726.

D'Edmonton on signale qu'en octobre, 65.04 pour cent du vote était en faveur de la fluoration, juste au-dessous de la majorité des deux tiers requise par la loi en Alberta. Aussi en Alberta, la majorité requise pour la fluoration fut atteinte à Claresholm, à Bowden, à White Court et à Bashaw.

En Colombie britannique les votes des municipalités appuyant la fluoration étaient: Chapman Camp 140-59; Golden 214-104; Marysville 199-89; North Kamloops 758-409; Tenace 1064-191; Kimberley 825-411; et Port Moody 701-227. La majorité, mais non les 60 pour cent, approuvait la fluoration à Duncan 413-278 et à North Cowichan 671-488. La fluoration n'a pas obtenu la majorité des votes nécessaires dans six municipalités dont Penticton, où le ministre provincial de la santé a critiqué les dirigeants de l'unité sanitaire de santé de South Okanagan pour leur intervention dans cette campagne.

La fluoration naturelle ou mécanique également salubre

Il n'y a pas de différence essentiellement entre l'eau contenant du fluor naturel et celle à laquelle on en a ajouté mécaniquement pour la diminution des caries.

Cette opinion ressort du dernier rapport de la 'Brantford (Ontario) Fluoridation Study.' Ce rapport fut émis le mois dernier par le Ministère de la santé nationale et du bien-être social. Les résultats de cette enquête démontrent une continuité bénéfique dans la réduction des caries chez les enfants de 16 et 17 ans, dix-sept ans et demi après l'introduction de fluor dans les eaux de Brantford, en Ontario.

Le rapport indique aussi que les effets salutaires de la fluoration de l'eau s'étendent jusqu'à la dix-huitième année.

L'expérience de caries chez les enfants nés et continuellement résidant à Brantford a été comparée à celle faite chez les enfants de Stratford, en Ontario, où le

fluor se trouve à l'état naturel dans l'eau, et ceux de Sarnia, en Ontario, où il n'y a aucune fluoration.

Nuls mauvais effets ne furent observés, attribuables à l'eau de Brantford ou de Stratford.

Fluoration pré-natale déclarée salubre

J. R. Blayney et I. N. Hill d'Evanston et Chicago rapportent que l'ingestion d'eau contenant une solution de fluor durant la grossesse donne aux enfants une protection additionnelle contre la carie dentaire et une plus grande concentration de fluor dans les os et les dents.

Leur rapport dans le *Journal of the American Dental Association* d'octobre 1964 déclare que la carie des dents temporaires est plus étendue chez les enfants dont les mères n'avaient pas bu d'eau contenant du fluor, que chez ceux dont les mères en avaient consommé, les deux groupes d'enfants ayant partagé la même eau d'Evanston après la naissance.

Evanston fut une des premières municipalités à fournir des solutions de fluor à ses réservoirs en 1947.

Les docteurs Blayney et Hill ont découvert que l'ion du fluor passe la barrière du placenta humain et est notamment indiqué par une analyse du contenu de fluor dans les os et les dents de quatre embryons de la ville d'Evanston, contrairement à ceux de neuf fœtus à Chicago où la fluoration n'existe pas.

Recherches

Le Conseil fédéral de la santé publique initie un nouveau sous-comité de recherches dentaires

Le Ministère de la santé nationale et du bien-être social a annoncé la création d'un nouveau sous-comité de recherches dentaires, pour accorder plus d'attention aux besoins des recherches en hygiène dentaire publique et pour réviser les projets, pour l'intérêt desquels, des subventions du

Ministère de la santé nationale sont requises. Les cinq nouveaux membres de ce sous-comité auront pour président R. A. Connor, directeur de la division de l'hygiène dentaire du Ministère de la santé nationale et du bien-être social. Le sous-comité fera des rapports au comité consultatif des recherches sur l'hygiène publique du Conseil fédéral de la santé publique (Dominion Council of Health).

Recherches du fluorure topique au Centre dentaire de Forsyth

Luther Terry, chef du U.S. Public Health Service, a annoncé son appui à la coordination d'un programme de recherches chimiques et cliniques sur les effets des traitements au fluorure topique chez les écoliers du Massachusetts. Finn Brudevold, chef de la dentisterie préventive du Centre dentaire de Forsyth, à Boston, et professeur de chirurgie dentaire à l'Université Harvard, dirigera le programme.

Les découvertes de laboratoire sur les concentrations variées du fluor et les différentes méthodes d'application de solutions examinées, en vue de la réduction de la carie dentaire, seront mises à l'essai dans ce projet. W. D. Wellock, directeur dentaire du Département de l'hygiène publique de l'état de Massachusetts, agira en coopération avec cet effort combiné du laboratoire-clinique. Les docteurs Brudevold et Wellock ont déjà développé et mis à l'épreuve des applications de fluorure topique qui ont amené de bons résultats dans la diminution de la carie.

Des essais préliminaires ont démontré que le fluorure dans un dissolvant organique, plutôt que dans des solutions aqueuses est rapidement absorbé par le minéral des dents. Dr Brudevold considère la continuation des épreuves de solutions fluorure-organiques aussi bien que de solutions aqueuses.

Protecteur de la bouche anticariogénique contenant une gelée fluorée

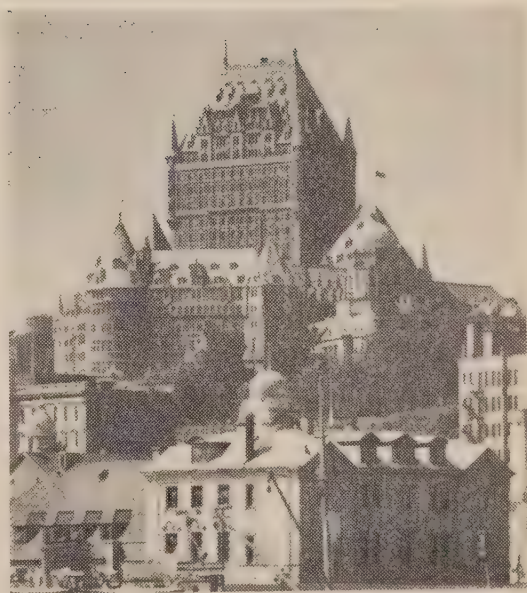
Un petit appareil de protection pour la bouche, pas plus gros qu'un ongle, peut être utilisé avec une gelée de fluorure,

pour enrayer la carie chez les hamsters, petits animaux chez lesquels se développe la carie dentaire commune aux humains. Ceci fut annoncé par P. H. Keyes, de l'Institut national de recherches dentaires (NIDR), de Bethesda, Maryland, à la réunion de novembre dernier, de l'Association dentaire américaine conjointement avec la Fédération dentaire internationale, à San Francisco.

Par conséquent, la NIDR a inauguré une étude clinique dans la région de Buffalo, New York, en collaboration avec l'Uni-

versité de l'état de New York, pour évaluer une nouvelle méthode de diminuer la carie des dents par l'application de fluor aux dents et aux gencives. Huit cents enfants, de 11 à 14 ans, portent des protecteurs de la bouche, faits sur mesure, durant environ six minutes par jour scolaire. Un groupe utilise une gelée de phosphate-fluorure tandis que le second groupe emploie une gelée ne contenant que du fluorure. Le troisième groupe d'enfants, agissant comme contrôle, ne reçoit ni fluorure ni protecteur.

Le Congrès national de l'A.D.C. aura lieu à Québec au mois de mai. Fondée par Champlain en 1608, sur les lieux mêmes où Cartier avait passé l'hiver de 1535, la cité de Québec est le berceau de l'histoire canadienne et elle a vu séjourner ou passer dans ses murs les personnages les plus prestigieux des deux régimes, français et anglais. Tour à tour capitale de la Nouvelle-France, du Canada devenu anglais, et de la province de Québec, la cité de Québec a toujours joué un rôle de premier plan dans la vie nationale, économique et politique du pays. Le culte du passé s'y allie à un modernisme de bon goût. Pour tout dire en un mot, Québec, c'est l'Histoire vivante, le passé et le présent fondus en un tout harmonieux en vue d'un avenir riche de promesses heureuses.



National Convention News

Advance Copies of Reports to Board of Governors Available

A limited supply of bureaux, committee, council and section reports to be presented at the annual meeting of the Board of Governors at Quebec City will be available in advance from Canadian Dental Association headquarters. Copies are distributed routinely to officials participating in the meeting. Other C.D.A. members who *will* attend the meeting and want advance copies of the reports should write the Deputy Secretary of the Canadian Dental Association by May 1.

Transplant and Implant Films and Enamel Structure Exhibit to be Shown at National Convention

Dentists who attend this year's national convention in Quebec City will be able to see a special colour film presentation on the latest procedures in transplant and implant dentistry and a striking scientific exhibit which uses a mechanized model and electron micrographs to demonstrate a new theory of enamel structure.

The colour film on transplant dentistry is entitled "Autogenous transplantation of the tooth." Chester Fong, College of Dentistry, University of California, will demonstrate the entire procedure from enucleation, through transplantation.

The film on implant dentistry, also in colour, features a procedure by E. J. Lattig and T. C. Lee of San Francisco. The film gives a detailed picture of the complete procedure from exposure and contouring of the bony ridge through fitting and implanting the denture.

The exhibit on enamel structure out-

modes the theory that enamel is composed of hexagonally shaped rods, which are separated by inter-rod material.

The transplantation and implantation films will be shown on the afternoons of May 31 and June 2 (Monday and Wednesday) at 2.00 p.m. at L'Institut Canadien. The enamel structure exhibit will be on display in the Chateau Frontenac throughout the convention.

The Association

Executive Council Meets

A full agenda awaited members of the C.D.A. Executive Council when they assembled for their 1965 mid-year meeting at Association headquarters, February 15-18. The Council considered a report prepared by its special steering committee on the Hall Commission recommendations. Members of the steering committee are R. A. Clappison, E. R. W. Bilkey and P. G. Anderson, all of Toronto. Council directed that the report be circulated for further comment to all groups who had previously been asked to comment to the steering committee regarding the Hall Report.

In other actions, the Executive Council:

Declined an application from the Yukon Dental Association to become a "component of the C.D.A." (the application is unacceptable within the constitutional framework of the C.D.A. because the Yukon is not a province);

Agreed to send a delegate to the Canadian Conference on Aging to be held in Toronto, January 24-28, 1966;

Received a progress report from the Canadian Fund for Dental Education;

Received the annual report on C.D.A. approved pension and insurance plans;

Received a progress report on the proposed Royal College of Dentists of Canada, and decided to defer further applications for C.D.A. section status and specialty recognition until the Royal College is established; and

Established a policy regarding advertising of commercial products. Under this policy, the C.D.A. will neither request nor approve the use of statements by the Council on Dental Therapeutics of the American Dental Association in commercial advertising of dental products sold in Canada.

The Council also adopted a budget in excess of \$332,000 for 1966.

The following official appointments were authorized by the Council: R. G. Ellis of Toronto, 1967 national convention chairman; Roger Charette of Montreal, 1969 national convention chairman; D. W. Gullett of Toronto, C.D.A. representative to the 53rd annual session of the Fédération Dentaire Internationale in Vienna, June 26-July 3; and K. J. Paynter of Toronto, dental representative to the Medical Advisory Board of the Health League of Canada.

Association Secretary W. G. McIntosh was appointed national treasurer for the Fédération Dentaire Internationale in Canada, dental representative to the Emergency Health Services Advisory Committee of the Department of National Health and Welfare, and managing director of the *Journal of the Canadian Dental Association*.

Council also appointed a subcommittee to study all aspects of dentists' legal protective associations. Subcommittee members are J. M. Chamard, chairman; J. P. Coupland; and A. H. Crowson, consultant.

C.D.A. Library Grows

Continued growth of the dental library at Canadian Dental Association headquarters is evidenced by the increasing number of periodicals received regularly. The list just issued shows 298 periodicals being received and available for borrowing by C.D.A. members. Publications range from *Abstracts of Bulgarian Scientific Literature* through *McGill Dental*

Review, Science to Zobozdravstveni Vestnik (Yugoslavia), and include most North American dental publications. Over 3,500 dental and medical volumes are contained in the library and are also available to members by mail. Miss Colette Gagnon, formerly receptionist and librarian, now devotes all her time to the expanding library. Contributions to the library trust fund, from which new acquisitions are purchased, are income tax deductible.

Have you experienced any adverse reactions to drugs administered to patients? If so, please report the circumstances to the Food and Drug Directorate of the Department of National Health and Welfare. The Directorate has distributed forms like the one illustrated below to physicians and dentists throughout Canada as part of a campaign to expose any potentially hazardous drugs at the earliest opportunity.

IN CONFIDENCE		For FDD use
To: The Medical Division Food and Drug Directorate Tunney's Pasture, Ottawa		
NOTIFICATION OF SUSPECTED TOXICITY AND SIDE EFFECTS OF DRUGS		
Drug		
How long has patient been on the drug?		
Daily dosage		
Suspected reaction (brief description of suspected toxic effects or side effects)		
Age of patient		
Sex		
Name of patient (for purposes of linking with other reports only)		
From: Name_____		
Street_____		
City_____ Prov._____		
Signed_____ Date_____		
F. & D. 123		

Special Report

Volume II Sets Out Details of Hall Medicare Plan

The Royal Commission on Health Services, in the second volume of its report released on February 18, describes the federal and provincial organization needed to set up the comprehensive, universal, prepaid health scheme recommended in the first volume published last June.

Volume II makes these four major recommendations:

Split the Department of National Health and Welfare into two separate departments;

Greatly expand health services in the Canadian north; the proposed new provincial health services commissions should take over the present provincial hospital insurance plans and operate these as part of a comprehensive health service;

Greatly increased support for research.

The Commission, headed by Mr. Justice Emmett M. Hall, stressed in this volume, as in the first, the need for crash training programs for health personnel.

The current report deals in detail with paramedical personnel — dietitians; medical record librarians; laboratory, radiological, operating room, electroencephalography and electrocardiography technicians; physiotherapists, occupational, and speech and audiological therapists; and medical social workers. The report also considers other health personnel such as optometrists, opticians, chiropractors, naturopaths and osteopaths.

Commenting on confusion of the public through indiscriminate use of the 'doctor' title, the Commission recommends that legislation be enacted so that no practitioner of any healing art without a doctoral degree granted by a recognized university be permitted to designate him-

self as 'doctor,' or to use any letter following his name indicating the same, or to advertise himself as such.

The Commission said its proposed plan would not be a single, unified, monolithic government-controlled system, but ten provincial programs plus separate programs for the Yukon and Northwest Territories. These programs would be run provincially but co-ordinated federally.

The bodies involved in carrying out the plan would be:

An annual conference of federal and provincial health ministers, with special meetings when necessary to discuss policy and common health problems;

A federal provincial health services co-ordinating committee, composed of heads of provincial health departments and health services commissions and federal deputy health and welfare ministers;

A Health Science Research Council to be the principal adviser to the federal government in planning research and allocating research funds;

A Health Planning Council of Canada to be appointed by the federal government from panels recommended by professional bodies, voluntary agencies, business, labour, farm and other associations.

The Health Planning Council of Canada would be concerned with improvement and development of services; recommendations for long-term needs; co-ordination of the activities of professional and voluntary organizations and government; and co-operation with provincial health planning councils, health services commissions and health departments.

News from Parliament

Hall Commission Report: Inquiry as to Conference with Provinces

The following exchange took place in the House of Commons on March 1:

W. D. Howe (Hamilton South): I should like to direct a question to the Minister of National Health and Welfare. Is there any truth in the assumption that the government is evading the federal-provincial conference on the Hall Commission Report in the hope that the provinces will each develop their own health plans and relieve the federal government of this responsibility?

Hon. Judy V. LaMarsh (Minister of National Health and Welfare): None whatever, Mr. Speaker.

International Items

Preliminary Program for F.D.I. Vienna Meeting

The following preliminary program has been announced for the 53rd annual session of the Fédération Dentaire Internationale, to be held at the Vienna Hofburg, June 26-July 3:

	SATURDAY, JUNE 26
9.00 a.m.	Armed Forces Dental Services Commission
9.00 a.m.	Publications Committee
10.30 a.m.	Scientific Assembly Committee
2.00 p.m.	General Assembly
	SUNDAY, JUNE 27
9.00 a.m.	Special Session of the General Assembly, followed by an international press conference
2.00 p.m.	Commission on Oral Statistics and Classification
2.30 p.m.	Reference Committee A
4.00 p.m.	Reference Committee B
8.00 p.m.	President's reception for supporting members of the F.D.I.
	MONDAY, JUNE 28
9.30 a.m.	Opening Ceremony
2.00 p.m.	Commission on Dental Materials and Therapeutics
2.00 p.m.	Regional Commission for Europe
2.00 p.m.	Editorial Board
7.30 p.m.	Reception given by the Mayor of Vienna

TUESDAY, JUNE 29

9.00 a.m.	Scientific program
2.30 p.m.	Scientific program
2.00 p.m.	Meeting of the National Treasurers
8.00 p.m.	Gala-performance of the Vienna State Opera

WEDNESDAY, JUNE 30

9.00 a.m.	Council B
8.30 a.m.	Departure to the Wachau (bus or steamer)
8.00 p.m.	Gala-performance at the Spanish Riding School

THURSDAY, JULY 1

9.00 a.m.	Scientific Program
2.30 p.m.	Scientific Program
2.00 p.m.	Sub-Committee on Dental History
2.00 p.m.	Military Conference
8.00 p.m.	Concert given by the Vienna Boys' Choir in the Hofburg

FRIDAY, JULY 2

9.00 a.m.	Scientific program
2.30 p.m.	Scientific program
2.00 p.m.	Armed Forces Dental Services Commission
8.00 p.m.	Banquet at the Hotel Vienna Intercontinental

SATURDAY, JULY 3

9.00 a.m.	General Assembly B
3.00 p.m.	Council C
7.00 p.m.	Dinner with wine and music at the "Wiener Heuriger"

Scientific sessions on Tuesday June 29, Thursday July 1, and Friday July 2 will be devoted to endodontics, functional prosthetic rehabilitation, and dental disease of the total organism. Simultaneous English, French and German translation will be provided. There will also be a large industrial exhibit at the Hofburg.

Social events include visits to historic sites in Vienna, Viennese museums, a conducted tour of the Vienna Hofburg which serves as residence of Austria's president, and a trip to the "Vienna Woods." Special ladies' events are also arranged.

Further information regarding the F.D.I. session may be obtained from G. H. Leatherman, secretary general, 35 Devonshire Place, London W.1, England. Dentists who wish to participate in the scientific program should secure an application form from the Organization Committee, 53rd Annual Session of the



Present at a banquet tendered November 27, 1964 to visiting Canadian dentists by the University of the Philippines Dental Alumni Association were (head table, l. to r.) F. C. Sabater of Manila, Mrs. M. A. Kamienski, Dean J. D. Rodriguez of the College of Dentistry of the University of the Philippines, M. A. Kamienski of Scarborough, Ontario, President A. A. Ursua of the Philippine Dental Association, and Mr. D. Gow.

F.D.I., Weihburggasse 10-12, Vienna 1, Austria.

Gullett Named F.D.I. Vice-President

D. W. Gullett, former secretary of the Canadian Dental Association, and a councillor of the Fédération Dentaire Internationale since 1958, was named vice-president of the Federation at the San Francisco meeting last November.

Toronto Will Host IADR-AADS Meetings in July

Toronto will be the host city for this year's annual meetings of the International Association of Dental Research and the American Association of Dental Schools. Respective dates for the two meetings are July 22-25 and 25-28. The Faculty of Dentistry, University of To-

ronto, plans to hold an 'Open House' for visiting delegates on Sunday, July 25 from 3.30 to 6.00 p.m. A joint meeting, to be addressed by an outstanding speaker, is scheduled for Sunday afternoon at 2.30 p.m. in the Concert Hall of the Royal York Hotel. Subsequently, a bus shuttle service will transport visitors from the hotel to the dental school and back again to the hotel.

Canadian Dentists Visit Far East

Thirty-five Ontario and Alberta dentists accompanied by their wives attended dental meetings in Honolulu, Hawaii and Kyoto, Japan following the joint American Dental Association - Fédération Dentaire Internationale annual session in San Francisco last November. Led by M. A. Kamienski of Scarborough, Ontario, the group also visited Hong Kong and Manila where they were the guests of President

A. Ursua of the Philippine Dental Association and Dean J. D. Rodriguez and staff members of the College of Dentistry of the University of the Philippines. F. J. Clumpus of Sudbury, R. Hawrish of Windsor, T. G. White of Sault Ste. Marie, W. M. McLean of Sarnia and M. A. Kamienski addressed dental students at the University of the Philippines during the Manila stop-over.

Berkshire Conference Slated for June 13-17

Tufts 16th annual Berkshire Conference in periodontology and oral pathology will be held June 13-17, 1965 at Eastover in Lenox, Massachusetts. The lecturers include Irving Glickman, P. A. McGuff, J. L. Bernier, R. M. Ricketts, Bernard Jankelson, W. G. F. Schmidt and J. W. Cosper, Jr.

The conference is open to general practitioners and dentists in specialized practice. Further information can be obtained by writing to Tufts Berkshire Conference, Tufts University School of Dental Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111, U.S.A.

ARPA Meeting Postponed to 1966

The 1965 ARPA Internationale meeting, originally slated for Basle, Switzerland, October 4-8, 1965 (as announced on page 137 of the February Journal), has been postponed and moved to West Berlin, May 23-26, 1966.

ARPA is an international association for periodontal research. Further information concerning the 1966 meeting may be obtained from Professor A.-J. Held, 30 rue Lombard, Geneva, Switzerland.

Postgraduate Courses Offered in New York

The First District Dental Society will offer a variety of short postgraduate refresher courses during the spring months. Further information concerning these courses may be obtained from J. J. Adelson, First District Dental Society,

Statler Hilton Hotel, 7th Avenue and West 33rd Street, New York 1, New York, U. S. A.

Dental Organizations

Maritime Orthodontists Honour Pioneer N.S. Colleague

Orthodontists from Saint John, Moncton, Fredericton, Sydney and Halifax met in Halifax Saturday, February 13, to honour W. W. Woodbury, pioneer orthodontist in the Atlantic Provinces. In a special ceremony Dr. Woodbury was presented with an engraved plaque and a silver tray in recognition of his outstanding contribution to dentistry and orthodontics.

The presentation was made by a former student of Dr. Woodbury's, E. J. Whyte of Sydney, president of the Atlantic Orthodontic Society. Dr. Woodbury was also made honorary president of the society.

Dr. Woodbury was born in Halifax and educated at the Halifax County Academy. He obtained a B.Sc. degree from Dalhousie University in 1905 and a D.D.S. degree from the Philadelphia Dental College in 1908. He also received an honorary LL.D. from Dalhousie University in 1953. Dr. Woodbury commenced general practice in 1908 and in the same year became a demonstrator in prosthodontics at Dalhousie University. He was professor of orthodontics from 1910 to 1952 and dean of the Faculty of Dentistry from 1935 to 1947. Dr. Woodbury served with the Canadian Army Dental Corps as a captain from 1918-1920. In 1920 Dr. Woodbury restricted his practice to orthodontics and continued in this capacity until 1960. He was president of the Canadian Dental Association from 1940-1942 and is a past president of the Provincial Dental Board of Nova Scotia. He is also an honorary member of the American Association of Orthodontists and a member of the Golden Anniversary Club of the American Association of Orthodontists (a recognition extended to those who have been in dental practice for 50 years).



E. J. Whyte (r.) of Sydney, Nova Scotia, presented an engraved plaque and silver tray to W. W. Woodbury (centre), pioneer Nova Scotia orthodontist, at a recent meeting of the Atlantic Orthodontic Society in Halifax. At left is T. E. Spracklin of Halifax.

Ward is President of Montreal Club



D. B. Ward

A new executive was installed at the 67th Annual Meeting of the Montreal Dental Club on January 18. D. B. Ward is the new president for 1965. Other officers are J. M. Chamard, honorary president; R. S. Edmison, president-elect;

M. A. Reutcky, secretary; C. A. Casey, treasurer; and A. R. Ramsay, historian-archivist.

New committee members E. C. Hickey, F. A. Crowley and P. C. Staples join two continuing committee members—J. E. Kehoe and V. B. Griffiths—who complete their second year in office. N. E. Hanna was named to complete the unexpired term of M. A. Reutcky.

Former president A. W. Oliver was presented with a painting on behalf of the club in appreciation of his services.

St. Catharines, Ont. Dentists Elect

B. M. Harley has been named president of the Greater St. Catharines Dental Society. Also elected recently were R. H. Sheppard, secretary, and B. O. Milligan, treasurer.

C.D.A. President Visits Regina Society

The president and secretary of the Canadian Dental Association paid their annual visit to the Regina Dental Society on February 23. They were greeted by a record attendance including many visitors from Swift Current, Moose Jaw, Indian Head and Fort Qu'Appelle.

Saskatchewan College Holds Annual Meeting

The annual meeting of the College of Dental Surgeons of Saskatchewan was held in Saskatoon, March 20-21. Guest clinician David Engel of Toronto spoke on 'Interceptive Orthodontics.'

Prince Albert Dentists Elect

Newly elected officers of the Prince Albert (Saskatchewan) Dental Society for 1965 are: G. A. Riekman, president; T. K. Tomlinson, secretary-treasurer; and G. H. Jenzen, council representative.

Other developments reported by the society are:

President Riekman recently appeared on television to discuss dental caries in response to a request from the Prince Albert Collegiate Institute; and

The society will ask the Saskatchewan Department of Public Health for upward revision of denture fees for indigent patients.

North Battleford Society Reactivated

The North Battleford (Saskatchewan) Dental Society was recently reactivated. The following new officers were elected: R. H. Wall, president; and F. S. W. Green, secretary-treasurer.

Moose Jaw Dentists Elect

Recent elections have resulted in the following new slate of officers for the Moose Jaw (Saskatchewan) Dental Society: D. F. Kroshus, president; A. F. Muirhead, vice-president; and W. A. Cotter, secretary-treasurer.

T. P. Bradley has left Moose Jaw and is now practising in Nanaimo, British Columbia. E. E. Eades has retired from private practice and has accepted an appointment with the Swift Current (Saskatchewan) Health Unit.

Home Talent Clinics in Victoria

Home talent clinics were featured at a recent meeting of the Victoria and District Dental Society when the following presentations were given: G. A. Stocker, office administration; R. M. Torrie, endodontics and apicoectomy; K. E. Leslie, band restorations for deciduous incisors; W. D. McDougall, dental photography; S. J. Fisher, surgical preparation of the ridges for full dentures; E. N. Screech, oral screens and Andresen appliances.

Public Relations Activities in B.C.

A seven-point public relations program proposed by E. J. Hyde has been adopted by the British Columbia Dental Association. The committee will promote and continue the projects of past public relations committees, such as dental seminars, mouth protectors, fluoridation display at the Pacific National Exhibition, "Tooth-brushes for Hallowe'en" and student recruitment.

In addition, a library of slides and films on dental health will be organized. Closer liaison will be established with other professions and the dentists' interest in community activities will be promoted. Procedures will be arranged to handle public relations in an emergency. A press relations committee will be created to provide press, radio and television coverage for the association, and professional counsel will be employed when necessary for a specific purpose.

B.C.D.A. Convention Highlights

At the forthcoming British Columbia Dental Association's convention at the Hotel Vancouver, May 20-22, the spotlight will be focussed on Roy Garn, executive director of the Emotional Appeal Insti-

tute of New York. Mr. Garn is a former editor of *Parents Magazine*.

The North American premiere of dental adhesive materials will also be featured. There will be a clinical and theoretical evaluation and comparison with silicates and acrylics based on ten months of actual office experience, directed by R. H. Roydhouse of the University of British Columbia dental faculty.

J. C. Bartels of Portland, Oregon will give a general review of operative dentistry, and William Fisher of Tacoma will demonstrate a new technique involving wax preparation for inlays and crown and bridge prosthodontics.

A dental equipment seminar will be conducted by D. G. Middaugh of U.B.C. who will speak on the principles behind dental equipment and the application of these principles.

Highlighting the ladies' program will be a brunch on Thursday convened by Mrs. J. L. Hornibrook. On Friday the ladies will attend a joint luncheon with their husbands, where they will have the opportunity of listening to Mr. Garn's lectures that day and on Saturday.

Canadian Dental Schools

New Oral Surgery Appointment at Manitoba

A. G. Parnell of the Sutherland Dental School, University of Durham, Newcastle-upon-Tyne, England, has been appointed associate professor of oral biology (oral surgery) and head of the section of oral surgery at the Faculty of Dentistry, University of Manitoba. Dr. Parnell, whose appointment commences July 1, replaces W. R. Schram, who retires as professor of oral surgery after holding the position since 1960.

Manitoba Students Get Financial Aid

Forty-three of the University of Manitoba's 114 undergraduate dental students are receiving conditional bursary aid from



J. S. Bricker, standing left, recently received an award from Vancouver and District Dental Society president B. M. Plumb for being the oldest living past president of the Vancouver society. Twenty-five other past presidents were honoured at the same meeting.

the following sources: Saskatchewan government 18; Royal Canadian Dental Corps 13; Manitoba government 12. This means that almost 40 per cent of the students are committed to practise in Saskatchewan, rural Manitoba or the Royal Canadian Dental Corps for two to five years following graduation.

Manitoba Faculty Helps Winnipeg Study Groups

The University of Manitoba's Faculty of Dentistry is helping the Winnipeg Dental Society operate a series of evening study groups at the dental school. Each group has its own chairman and mentor. All but one of the group leaders are full-time faculty staff members. Subjects currently under study are periodontics, paedodontics, fixed partial prosthodontics, interceptive orthodontics, endodontics, oral surgery and prosthodontics.

Seventy Winnipeg dentists are participating in the different programs.

Prof. Grainger Named to F.D.I. Commission

R. M. Grainger of the Faculty of Dentistry, University of Toronto, has been elected a member of the Commission on Classification and Statistics for Oral Con-

ditions by the Fédération Dentaire Internationale.

Dr. Grainger previously participated in similar work on behalf of the World Health Organization. Last September he attended a meeting convened by WHO to draft revisions for the dental section of the International Classification of Diseases, Injuries, and Causes of Death.

Royal Canadian Dental Corps

Col. Millar and Lt.-Col. Protheroe Attend Meetings

Col. I. A. L. Millar, Deputy Director General of Dental Services for the Canadian Forces, represented the Director General, Brig. K. M. Baird, at Camp Borden, Ontario, February 1-3, at a conference on the integration of training of the armed forces.

Lt.-Col. D. H. Protheroe of the R.C.D.C. School, Camp Borden, was present at the meeting of the Council on Public Health, Canadian Dental Association, February 1 and 2, at C.D.A. Headquarters in Toronto. At this meeting Lt.-Col. Protheroe reviewed the R.C.D.C. program on dental auxiliary personnel.

Officers Attend Professional Training Courses

The following officers attended a five-week (February 15 to March 19) Casualty Care and Officers Clinical Course at the Corps School, Camp Borden, Ontario: Lt.-Col. N. A. Butcher, Headquarters No. 13 Dental Company, Trenton, Ontario; Lt.-Col. J. G. Butler, H.M.C.S. Cornwallis, Nova Scotia; Maj. C. Brown, Headquarters No. 14 Dental Company, Winnipeg; Maj. H. J. Cashin, No. 1 Personnel Depot, Windsor Park, Halifax; Maj. J. L. Y. Cyrenne, R.C.A.F. Station, Bagotville, P. Que.; Maj. D. R. Girard, No. 25 Central Ordnance Depot, Longue Pointe, P. Que.

Maj. D. H. Skinner, Camp Petawawa, Ontario, completed the Cogswell oral sur-

gery course, February 1 to 12, at Ent Air Force Base, Colorado Springs, Colorado.

Lt.-Col. C. M. Cornish, Ottawa, attended a course in oral pathology, February 8 to 12, at the U.S. Naval Dental School, Bethesda, Maryland.

Extension Education Program

Extension courses covering endodontics, operative dentistry, crown and bridge prosthodontics, oral diagnosis, oral surgery, periodontics and complete and partial prosthodontics are offered to R.C.D.C. officers under the auspices of the U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland.

These courses do not replace general postgraduate courses or other types of available training but assist dental officers to keep informed on subjects in which they have a particular interest. To date 106 R.C.D.C. dental officers have completed or are completing a selected course in their own time. Certificates are issued by the United States Naval Dental School to officers who obtain satisfactory grades.

Posted in February:

Capt. L. J. C. Giguere from No. 11 Dental Company to No. 15 Dental Company for employment at R.C.A.F. Station, Bagotville, P. Que.;

Capt. P. S. Wade from No. 15 Dental Company to No. 11 Dental Company for employment at Workpoint Barracks, Esquimalt, British Columbia.

Economics

Canadian Dentists Employ More Auxiliary Personnel

Eighty-seven per cent of the dentists responding to the 1963 Survey of Dental Practice employed full- or part-time dental assistants. Seven per cent had part-

time assistants only, 61 per cent had one full-time assistant, and 19 per cent employed more than one assistant. In 1958, 48 per cent of the responding dentists employed one assistant and two per cent employed two assistants.

Preliminary analysis of the survey further indicates that full-time or part-time secretaries or receptionists were employed by 22 per cent of the dentists. Dental laboratory technicians were employed in the offices of six per cent of Canadian dentists. Only four per cent of the dentists employed dental hygienists, three per cent of them having only a part-time hygienist.

Alberta Medical Plan Eyes Dental Coverage

The Alberta government may extend subsidized benefits under its provincial medicare plan to include drugs, chiropractic, ambulance, optometric and, eventually, dental services. This prediction was recently made by Alberta's health minister J. Donovan Ross. The Alberta government budgeted \$2,750,000 for medical subsidies in the first year of operation of the province's medical plan. So far, only 192,000 persons eligible for subsidy have enrolled in the medical plan. If the other 210,000 who are believed in need of help also enrol, the cost will rise to between \$4 and \$5 million. Rather than increase the subsidy, the Alberta government will probably extend subsidized benefits as outlined above.

Ontario Medical Association Refuses Support to Dentists

Dentists will get no support from physicians in a bid to have Ontario's proposed medical insurance scheme provide for payment to them for medical services they perform. Addressing dentists at the 1964 Ontario Dental Association convention, former Ontario Medical Association president Patrick Bruce-Lockhart told dentists to organize their own prepaid insurance program. Faith healers had also applied to have their bills paid

through the scheme, Dr. Lockhart said. He told dentists the O.M.A. had to draw the line somewhere.

The proposed bill was called discriminatory in its treatment of dentists by W. J. Dunn, former registrar of the Royal College of Dental Surgeons of Ontario. He said that although treatment by dentists of broken jaws, oral infections and several similar ailments was provided for in the Dentistry Act of Ontario, the proposed scheme would not allow for payment to them.

British Dentists May Follow Physicians in Move to Abandon National Health Service

Britain's National Health Service faces a new threat. The country's 12,000 dentists may join 23,000 family physicians in boycotting the national health system in a pay dispute. The 60-member General Dental Services Committee of the British Dental Association called an emergency meeting in London February 26, to discuss possible resignations by its members from the N.H.S. The British Medical Association had urged all general medical practitioners to hand in their undated resignations to the B.M.A. "for use on, or after, April 1, 1965."

First Group Enrolled in Washington Dental Incentive Plan

Employees of the Washington State Dairy Foundation and their dependants have become the first group to be covered under the 'Dental Incentive Plan' of the Washington Dental Service (Corporation). Under the program, the beneficiary pays 30 per cent of the cost of his dental care the first year, with his share of the cost decreasing 10 per cent each year to nothing the fourth year. The individual must visit his dentist at least once a year to keep his incentive rate in effect.

There are no maximum ceilings on treatment and no deductible items. The only exception to the comprehensive coverage afforded by the plan is prosthetic

service, including dentures. Because of the belief that the need for this type of treatment results from neglect, the plan pays 50 per cent of the cost, thus providing further incentive to the beneficiary to practise sound oral hygiene and obtain regular care and, thereby, prevent the need for prosthetic services.

Research

Promising Adhesive Filling Material Tested in Vancouver

Vancouver citizens are among the first persons anywhere to benefit from a new type of adhesive restorative material developed by a member of the University of British Columbia Faculty of Dentistry. R. H. Roydhouse, assistant professor in the Department of Restorative Dentistry, has been working on the new material since 1961.

Described as a polymer or synthetic resin mixed with a variety of mineral and glass fillers, the new material, now being marketed in the United States under the trade name Addent, is intended as a substitute for silicate cement. Advantages claimed for the new material are that it picks up the colour of the tooth itself, requires a shallower cavity than silicate cement, and strengthens the tooth rather than weakening it.

The material is a heavy white paste which can be wiped into the cavity. It takes about three minutes to harden.

Dr. Roydhouse believes that its adhesive qualities may also serve to prevent cavities in children's teeth. Painted on the teeth, the material forms a film in cracks and crevices on occlusal surfaces and prevents collection of food particles.

Clinical tests of the new material have been going on in Vancouver for more than a year. Dr. Roydhouse will also go to Rochester, New York, later this year to check the results of an experiment where the material has been painted on children's teeth.

Fluoridation

New Brunswick to Get New Fluoridation Legislation

The New Brunswick provincial government plans to introduce legislation to permit fluoridation of municipal water supplies. Health Minister G. L. Dumont announced on March 23 that a proposed amendment to the provincial Health Act will let municipalities fluoridate their water supplies on 'a permissive basis' with local option. At present, the Health Act gives the minister of health broad powers, including that of granting permission for the 'treatment' of water supplies with the approval of the lieutenant-governor in council. The new amendment would let municipalities decide for themselves about fluoridation.

A spokesman for the Saint John Dental Society, Mitchell Levine, commended the provincial government's action. Dr Levine added that fluoridation of the Greater Saint John water supply will be urged after permissive legislation becomes official. In 1957, he said, Saint John citizens already voted in favour of fluoridation.

M. J. Crompton, secretary-treasurer of the New Brunswick Dental Society, also welcomed the government's action. The society has been pressing for fluoridation for years. The New Brunswick Federation of Home and School Associations has also campaigned for fluoridation.

Public Health

Advisory Dental Health Committee Established in Ottawa

An advisory committee on dental health, to advise and assist the Minister of National Health and Welfare, has been established by the Governor-General in Council. The 18-member committee, to be appointed by the minister, will include

representatives from each provincial health department, health professions and associations, as well as members of the federal health department. Appointments to the committee will be for three year terms.

Primary responsibility of the committee will be to assist, advise and make recommendations on matters relating to dental and oral health in Canada. The committee will work closely with professional organizations and other associations interested in the betterment of dental and oral health.

Announcing the establishment of the committee on February 19, the Hon. Judy LaMarsh, Minister of National Health and Welfare, said: "The creation of this advisory committee reflects the increasing concern for the maintenance and further development of high standards of dental health in Canada. The committee will facilitate and improve the co-operation which already exists with all provincial authorities, and will provide a full exchange of information for those concerned with dental health of Canadians."

Appointments to the committee will be announced at a later date. This will be followed by the first meeting of the committee in Ottawa.

Awards and Honours

Orthodontists from Saint John, Moncton, Fredericton, Sydney and Halifax honoured **W. W. Woodbury** at a special ceremony in Halifax, February 13. One of eastern Canada's pioneer orthodontists, Dr. Woodbury received an engraved plaque and silver tray in recognition of his outstanding contribution to dentistry and orthodontics. Dr. Woodbury was also made an honorary president of the Atlantic Orthodontic Society.

J. S. Bricker was recently honoured as the oldest living past president of the Vancouver and District Dental Society.

"... I don't consider it necessary to establish dental care as a reward for getting pregnant ... It discriminates against the male population, as there is no way in which they can directly benefit from such a program. There may be secondary benefits, however, as their services are required in order to make the female population eligible for such a program." (Anonymous comment on the Hall Commission's proposed maternal dental health program)

Introduction to Dental Anatomy

J. H. Scott and N. B. B. Symons. Ed. 4. Edinburgh and London, E. & S. Livingstone Ltd., 1964. (Available from The Macmillan Company of Canada Limited, Toronto) 406 p. Illus. \$9.00

This book is, as the title rightly declares, an introduction to dental anatomy. Its weakest chapter is that dealing with tooth form (morphology) and this is as it should be.

This text brings together, under one cover, the information so necessary for an appreciation and understanding of dental anatomy. This is presented accurately, in concise form, and in a manner that can be readily understood by a first year student. No practical work can be done in dentistry without a knowledge of dental morphology. Unfortunately, the tendency today is to teach morphology as a separate entity while the student is acquiring knowledge of the allied subjects of physiology, histology and embryology. Thus the student's thinking tends to be compartmentalized to the detriment of his understanding. A text such as this is ideal for establishment of the proper sense of values necessary for correlation of scientific knowledge and skill.

The 1964 edition has added a chapter on the development of periodontal tissues and has increased the number of illustrations. Although these improvements are worth while, they do not warrant the replacement of the 1961 edition. The two books are generally the same and there has been no major change.

The book was probably intended to serve the undergraduate. It is nevertheless a gem of precise and accurate reporting. This reviewer has read and reread portions for the sheer joy of observing how the authors have organized their information and polished away the excess verbiage. The section on comparative dental anatomy is particularly interesting. The authors present what they consider to be of value in a well organized fashion.

This excellent book is suitable for undergraduates, for dental teachers, and for dentists who wish to maintain and up-date their dental knowledge.

M. J. Snidal

Oral Rehabilitation Problem Cases: Treatment and Evaluation

J. M. Schweitzer. Vol. 1 and 2. St. Louis, C. V. Mosby Co., 1964. 1014 p. Illus. \$44.50

In the final chapter of this work, the author refers to the large number of cases which he has reported and states: "In each instance some problem was present, and it was for this reason that they were selected from a much larger group of average cases . . . Every patient who desires treatment has some problem, if any form of restorative dentistry is necessary, but in selected cases the problem requires a deeper understanding . . ." In thus sharing his experience and his knowledge, Dr. Schweitzer offers the reader a deeper understanding of biological and technical principles that underlie the management of oral rehabilitation problem cases.

The work is presented in two volumes comprising more than 1,000 pages and 2,036 figures including 2,819 photographs. It is attractively bound and printed. The text material is well organized and written in a familiar style allowing easy understanding of the detailed procedural sequences.

Dr. Schweitzer divides the problems met in the treatment of oral rehabilitation cases into three main classes: those over which the dentist has very little control; those allowing limited control; and those permitting greater control. Within these three main divisions he identifies 35 special categories. These include systemic factors, periodontal disease, splinting, post-insertion care, temporomandibular joint, aging, free-way space, emotional backgrounds, gnathology, transographics and many others.

He treats these by presenting the accounts of 210 cases in which he was personally involved. A typical case presentation describes the case history, present condition, diagnosis and treatment plan, suggested and actual supporting treatment, results and post-insertion report.

It is difficult to classify this work as either a text or a reference book, although it tends to fall into the latter category. However, the great value of such books lies in the opportunity to share intimately in the

study, treatment and solution of numerous selected oral rehabilitation problem cases which have been treated in the busy practice of an outstanding authority over a span of more than 40 years. It is an opportunity which should not be missed.

James McCutcheon

The Dentist, His Practice, and His Community

W. O. Young and D. F. Striffler. Philadelphia and London, W. B. Saunders, 1964. (Available from McAinsh & Co. Limited, Toronto) 318 p. Illus. \$9.20

Is dentistry an essential health service or an elective luxury? Does provision have to be made to provide dental services of high quality for all people? Must the practice of dentistry evolve with our changing society if it is to continue to be a health service? Is the dentist in his community something more than an animated machine for the restoration of carious lesions and the replacement of missing teeth? Can and will dentistry of today provide professional leadership for the dental health of the public it serves? These are some of the current topics boldly and frankly discussed by the authors of this book.

This text makes a comprehensive analysis of providing dental services for all-inclusive health of individuals and, in turn, for the community. The writers rivet the reader's attention with vivid and significant material of interest to dentists, prospective practitioners, students and people concerned with the practice of dentistry. They clearly depict the demands expected of the profession within the community. They also try to give a clear understanding of dentistry for the public.

The format of the book provides easy access to further reference material of interest to the reader. The contents are grouped into six sections. The section on epidemiology unfortunately credits the reader with technical knowledge which most dentists do not possess. This defeats one purpose of the book, that of trying to capture a portion of the reading time of the general practitioner. On the other hand, this portion of the book demonstrates that there is more to dental public health than advising on toothbrushing and counting teeth.

The section on prevention and control of dental caries is excellent. The writers stress the shift in emphasis in the practice of den-

tistry that will occur over the next few decades; these changes are unlikely to reduce the total professional work load. There will be more and more concern with the preservation of health and function in the middle and older age groups. Dentistry's already accomplished transition from a mechanical vocation to a health profession has been marked by increasing emphasis on prevention of disease and concern for the total health of the individual. This trend will prevail in the future.

Of concern to the profession is the problem of meeting the increasing demands for dental care. The development of new knowledge and skills creates a new level of minimum needs and presents society with new problems in meeting these needs. Better education and larger individual incomes, supported by the growth of private and governmental care programs, have expanded and will continue to expand the level of per capita demand for dental care. This increase in demand will make it difficult to ensure adequate service for all who demand it.

Dental health education is recognized as an important aspect of dental practice. But mass communications media used in support of dental health education have their limitations. The dental educator has the difficult task of persuading people to submit to procedures that are often inconvenient, expensive, uncomfortable and time consuming. Unlike the commercial advertiser, the dental educator has to direct his campaign in support of a product which has no great public attraction. Furthermore, he directs his efforts toward a universal (not selected) public—a public that is conspicuously heterogeneous. This complicates his task. The most effective health education is achieved through person-to-person communication. This type of education is a prime responsibility of the individual dentist and his personnel in private practice.

The role of the dentist and dental hygienist in maintaining the health of the community is vital to the overall requirement of maintaining dentistry as a professional entity. Local circumstances determine the actions of dentists in providing a health service and the use of the various facilities at the disposal of the profession—including general practitioners, auxiliary personnel, dental hygienists, dental care financing, continuous education and preventive services, health departments and other agencies.

Modern society is making new demands of the dental profession. This book provides a timely analysis of the trends and problems that face us in this connection.

C. H. McCormick

Additions • Acquisitions

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- ADAMS, C. P. *The design and construction of removable orthodontic appliances*. Ed. 3. Bristol, John Wright & Sons Ltd., 1964. 154 p. illus.
- AMERICAN DENTAL ASSOCIATION. COUNCIL ON HOSPITAL DENTAL SERVICE. *A guide to hospital dental procedure*. Edited by B. L. Douglas and G. J. Casey. Chicago, 1964. 195 p. \$5.00
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- ANNALES UNIVERSITATIS MARIA CURIE-SKLODOWSKA. Sectio D. Medicina. Vol. XVIII, 1963. 570 p. illus.
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- CRANDELL, C. E. ed. *Proceedings of the First International Research Conference in Oral Roentgenology*, Lincoln, Nebraska, November 21-23, 1963. Sponsored by the American Academy of Oral Roentgenology, Chapel Hill, North Carolina. 177 p. illus.
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- EUROPEAN ORGANIZATION FOR RESEARCH ON FLUORINE AND DENTAL CARIES PREVENTION. *Advances in fluorine research and dental caries prevention; proceedings of the 10th congress*, Geneva, 10th-14th July, 1963. New York, Macmillan, 1964. 218 p. illus. \$18.70
- FARNDAL, J. *Trends in the National Health Service*. Oxford, Pergamon Press, 1964. 423 p. \$16.50
- FULTON, J. T., HUGHES, J. T. and MERCER, C. V. *The life cycle of human teeth*. Chapel Hill, U. North Carolina, 1964. 37 p.
- GEMMIL, P. F. *Britain's search for health; the first twelve years of the National Health Service*. Philadelphia, University of Pennsylvania Press, 1962. 171 p. \$5.00
- GILMORE, H. W. *New concepts for the amalgam restoration*. (Practical Dental Monographs, November 1964). 31 p. illus.
- GOLDMAN, H. M., FORREST, S. P., BYRD, D. L. and McDONALD, R. E. *Current therapy in dentistry*. St. Louis, Mosby, 1964. 752 p. illus. \$19.45
- KRAUS, B. S. *The basis of human evolution*. New York, Harper & Row, 1964. 384 p. illus. \$5.15
- LUCAS, R. B. *Pathology of tumours of the oral tissues*. London, J. & A. Churchill, Ltd., 1964. 316 p. illus. \$16.35
- TYMESON, M. M. *But one lamp; the story of dentistry in Massachusetts presented by the Massachusetts Dental Society on the occasion of its centennial, 1864-1964*. 64 p. illus.
- WILKINS, E. M. and McCULLOUGH, P. A. *Clinical practice of the dental hygienist*. Ed. 2. Philadelphia, Lea & Febiger, 1964. 536 p. \$10.50

in memoriam

JOHN BOLTON AIKEN — Dr. J. B. Aiken of Red Lake, Ontario, died on November 22, 1964, at the age of 74. Dr. Aiken was born in Orangeville, Ontario, and graduated from the Royal College of Dental Surgeons of Ontario in 1913. He had practised at Kapuskasing, Timmins, Kirkland Lake and for the past 30 years at Red Lake, Ontario. He was a life member of the Royal College of Dental Surgeons. Dr. Aiken is survived by a son, George of Red Lake, and four grandchildren.

ALAN DOUGLAS ATKINS — Dr. A. D. Atkins of Long Branch, Ontario, died on February 12, 1965. He was 48. Dr. Atkins was born in Morden, Manitoba, in 1917 and graduated from the University of Toronto in 1952. Dr. Atkins is survived by a brother, Donald of Glen Williams, Ontario.

HARRY SOMMERVILLE BANFIELD — Dr. H. S. Banfield of Toronto died on February 7, 1965, at the age of 47. He was born in Toronto in 1918. He obtained his early education at Upper Canada College and graduated from the University of Toronto in 1943. Dr. Banfield served as captain with the Royal Canadian Dental Corps from 1943 until 1945, and was president of the West Toronto Dental Society in 1958. Besides his wife, Jean Eleanor, Dr. Banfield is survived by a son, Bruce; one daughter, Heather; his mother, Mrs. Alice Banfield; a brother, Alan of Oshawa; and a sister, Mrs. Mildred Grant of Kingston.

ROBERT MUIRHEAD BOX — Dr. R. M. Box of Toronto died on March 1, 1965, at the age of 72. Dr. Box graduated from the Royal College of Dental Surgeons of Ontario in 1916 and practised in Carleton Place until 35 years ago when he returned to Toronto. Besides his wife, Elsie, Dr. Box is survived by two brothers, Dr. Hugh of Toronto and Dr. Edward of Ottawa.

LAVERNE WARD CALDBICK—Dr. L. W. Caldbick of Winnipeg died on January 4, 1965, at the age of 65. He was born in Bois-sevain, Manitoba, in 1899, and graduated from the Royal College of Dental Surgeons of Ontario in 1922. Dr. Caldbick was

a member of the Manitoba Dental Association and the Winnipeg Dental Society. Surviving Dr. Caldbick are his wife, Rheta, and his mother, Mrs. E. Caldbick.

MATTHEW HERBERT CAVANAUGH—Dr. M. H. Cavanaugh of Saint John, New Brunswick, died on December 6, 1964, at the age of 60. He was registered under the New Brunswick Act in 1942. Dr. Cavanaugh is survived by his wife, Mabel; a son, Matthew; and an aunt, Mrs. Marian Rodgers.

ORMOND SPENCER CLAPPISON — Dr. O. S. Clappison of Toronto died on March 4, 1965. He was 78. Dr. Clappison was born in Hamilton, Ontario, in 1886. Following graduation from the Royal College of Dental Surgeons of Ontario in 1908 he practised in Hamilton until 1926 and in Toronto until 1964. He was a member of the American Academy of Restorative Dentistry and held honorary membership in the Toronto Academy of Dentistry and the Canadian Academy of Restorative Dentistry. Dr. Clappison is survived by his wife, Ethel; four sons, Wallace, Donald, John and Dr. Robert of Toronto; two daughters, Mrs. William Flatt and Mrs. Howard Stollery of Toronto; two brothers, Harry and Arthur of Toronto; and a sister, Mrs. Frank Foss of Chicago.

AZELLUS COMTOIS — Le Dr Azellus Comtois de Montréal, âgé de 64 ans, est décédé le 7 février 1965. Il naquit à St-Barthelemy, P. Québec, en 1900. Le Dr Comtois obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1927.

AUBREY OSCAR DERBYSHIRE — Dr. A. O. Derbyshire of Bolton, Ontario, died on November 30, 1964. He was 74. Dr. Derbyshire was born in Westport, Ontario, in 1890 and graduated from the Royal College of Dental Surgeons of Ontario in 1921. He practised in Toronto until 1954 and in Bolton until the time of his death. Dr. Derbyshire is survived by his wife, Anne; three sons, Dr. J. C. of Philadelphia, R. M. of Downsview, Ontario and Edward G. of Bolton; and eight grandchildren.

WILLIAM HOWARD GEDDES—Dr. W. H. Geddes of Vancouver died on January 16, 1965. He was 84. Dr. Geddes was born in Vankleek Hill, Ontario, in 1880. He graduated from the Royal College of Dental Surgeons of Ontario in 1906 and practised in Winnipeg and Vancouver until his retirement in 1962. Dr. Geddes is survived by two daughters, Mrs. T. King and Mrs. J. Dooley, both of Vancouver, and three grandchildren.

HYMIE GREENBERG — Dr. H. Greenberg of Winnipeg died on December 4, 1964. He was 67. Dr. Greenberg was born in Russia in 1897. He graduated from the Baltimore College of Dental Surgeons, University of Maryland, in 1922 and practised in Winnipeg. He was a member of the Alpha Omega Fraternity and the Winnipeg Dental Society and served with the Royal Canadian Dental Corps. Besides his wife, Ida, Dr. Greenberg is survived by a son, Roland; two sisters, Rose Rosen and Minnie Rice; and two brothers, Abe and Dr. Norman.

HENRY JAMES HENDERSON — Dr. H. J. Henderson of Victoria, British Columbia, died on January 15, 1965. He was 75. Following graduation from the North Pacific College, University of Oregon, in 1909, he practised in Victoria. During World War I he served with the Canadian Dental Corps. Surviving Dr. Henderson are his wife, Alice; one son; and three grandchildren.

DANIEL RUBY JACOB — Dr. D. R. Jacob of Winnipeg died on February 22, 1965, at the age of 65. He was born in St. Louis, Missouri, in 1899. Following graduation from the University of Minnesota in 1923 Dr. Jacob practised in Winnipeg.

MAX MAGNUS JOHNSON — Dr. M. M. Johnson of North Burnaby, British Columbia, died on December 14, 1964. He was 68. Dr. Johnson was born in Norway in 1896. He received his early education in Bellingham, Washington, and graduated from Northwestern University in 1918. He practised in Vancouver and was a life member of the Vancouver and District Dental Society. Dr. Johnson is survived by his wife, Cora, one daughter and three grandchildren.

JEAN-REMY LAZURE — Le Dr J.-R. Lazure de Montréal est décédé le 20 janvier 1965 à l'âge de 63 ans. Il était né à St-Remi, P. Québec en 1901 et obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1926.

JOHN REGINALD McLACHLAN — Dr. J. R. McLachlan of Hamilton, Ontario, died

on February 12, 1965. He was 66. Dr. McLachlan was born in Bolton, Ontario, in 1898 and graduated from the Royal College of Dental Surgeons of Ontario in 1920. Dr. McLachlan is survived by his wife, Florence; a son, Rev. John McLachlan; a daughter, Mary Susan; and a sister, Mrs. Frank Lennard of Dundas, Ontario.

CHARLES McLEAN — Dr. C. McLean of Toronto died on November 1, 1964, at the age of 65. He was born in Toronto in 1899 and graduated from the Royal College of Dental Surgeons of Ontario in 1920. Dr. McLean was secretary of the Academy of Dentistry from 1931 to 1941 and president in 1943. He was the first president of the Association of Downtown Dentists in 1935. Besides his wife, Faye, Dr. McLean is survived by a son, Murray; one daughter, Mrs. K. Nicholson; three sisters, Mrs. R. Leslie, Mrs. K. Pugsley and Mrs. R. R. Wilson; and five grandchildren.

THOMAS JOHN MUIR — Dr. T. J. Muir of Port Coquitlam, British Columbia, died on December 13, 1964. He was 68. Dr. Muir was born in Vancouver in 1896. He graduated from North Pacific College, University of Oregon in 1921 and practised in Trail, British Columbia, and Port Coquitlam. He served overseas during World War I. Dr. Muir is survived by his wife, Doris.

VICTOR EDWARD POTTER — Dr. V. E. Potter of St. Albert, Alberta, died on November 23, 1964, at the age of 50. He was born in Medicine Hat, Alberta, in 1914 and graduated from McGill University in 1949. After practising in Montreal for several years, Dr. Potter went to Alberta where he served with the Department of Public Health. Surviving Dr. Potter are his wife, two stepdaughters, his mother and one brother.

THOMAS E. E. ROBINS—Dr. T. E. E. Robins of Charlottetown, Prince Edward Island, died on January 1, 1965. He was born in Charlottetown in 1885. Following graduation from Tufts University in 1907, he practised in Charlottetown for 54 years, retiring in 1961 and practising part-time until 1963. Dr. Robins was a past president of the Prince Edward Island Dental Society and Prince Edward Island representative to the Canadian Dental Association in 1931 and 1932. During World War I he served with the Prince Edward Island Light Horse, and was attached to the 105th Battalion. He also held the rank of captain in the 199th Battalion and served with the Princess Patricia's Own Irish Canadian Rangers. Dr. Robins is survived by two daughters, Eleanor and Marjorie of Massachusetts.

CHARLES WILLIAM HENRY RONDEAU—Dr. C. W. H. Rondeau of Westmount, P. Quebec, died on February 6, 1965. He was 91. Dr. Rondeau was born in Joliette, P. Quebec, in 1874 and graduated from University of Bishops College in 1894. After practising for a brief period in Granby, P. Quebec, he moved to Westmount where he practised for more than 60 years. He was made an honorary member of the Canadian Dental Association in 1945. During World War I he served as captain with the Royal Canadian Medical Corps. Dr. Rondeau is survived by a son, Dr. G. Martin Rondeau; a daughter, Mrs. Wesley King of Dorval, P. Quebec; five grandchildren; and two great grandchildren.

PHILIP BENJAMIN NEWTON SAMUEL—Dr. P. B. N. Samuel of Estevan, Saskatchewan, died on December 30, 1964, at the age of 51. He was born in Trinidad, British West Indies, in 1913. Following graduation from McGill University in 1949, he practised in Langenburg, Esterhazy, Weyburn and Estevan, Saskatchewan. Dr. Samuel also held a licence to practise in Trinidad. During World War II he served with the Royal Canadian Dental Corps attached to the South Saskatchewan Regiment. Dr. Samuel is survived by his wife; a son, Stephen; and three daughters, Maureen, Therese and Valerie.

STANLEY VICTOR SAUNDERS—Dr. S. V. Saunders of Smiths Falls, Ontario, died on April 12, 1964, at the age of 69. He was born in Smiths Falls in 1894. Following graduation from the Royal College of Dental Surgeons of Ontario in 1917, Dr. Saunders served with the Canadian Army Dental Corps. He was a lifelong resident of

Smiths Falls where he practised for 47 years. Dr. Saunders is survived by his wife; one son, Alan; and a daughter, Joan.

WILLIAM ANDREW WEATHERHEAD—Dr. W. A. Weatherhead of Sharbot Lake, Ontario, died on January 9, 1965, at the age of 69. He was born in Westport, Ontario, in 1895. Following graduation from the Royal College of Dental Surgeons of Ontario in 1923, he practised in Toronto. In 1925 he went to Sharbot Lake where he practised until his death. During World War I he served overseas with the 6th Canadian Battalion. For four years Dr. Weatherhead served on the Executive of the Eastern Ontario Dental Association. Surviving Dr. Weatherhead are his wife, Wilna; two sons, Dr. D. J. Weatherhead of Sharbot Lake and Harry of Toronto; a sister, Mrs. R. W. Knapp of Ottawa; and a brother, James of North Burnaby.

EVERT LEON WHITE—Dr. E. L. White of Winnipeg died on December 26, 1964, at the age of 83. He was born in St. Marys, Ontario, in 1881. He graduated from Northwestern University, Chicago, and practised in Winnipeg, retiring in 1950. Dr. White was past president of the Manitoba Dental Association and the Winnipeg Dental Society. Besides his wife, Christina, Dr. White is survived by a son, Oliver of Moncton, New Brunswick; a daughter, Vivian of Ithaca, New York; a brother, Harry of London, Ontario; and three grandchildren.

RICHARD ERNEST WILSON—Dr. R. E. Wilson of Lindsay, Ontario, died on February 14, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1923 and practised in Lindsay.

C.D.A. Library Trust Fund • The circulation of books and periodicals by the Canadian Dental Association's Library provides a valuable service to Association members. Increased circulation and the purchase of new texts make greater demands on the Association's library trust fund. All donations to the fund are therefore gratefully received. Donors are furnished receipts which entitle them to income tax deduction.

canadian dental association
 retirement savings plan



Quarterly report

February 28, 1965

	<i>Amount Invested</i>	<i>Market value</i>	<i>Unit value</i>
Government Bond Fund	\$ 406,673	\$ 417,587	\$13.522
Corporate Bond Fund	752,964	762,381	14.233
Common Stock Fund	1,964,170	2,514,463	19.962
	<u>\$3,123,807</u>	<u>\$3,694,431</u>	

- ▶ Average Individual Contribution in 1964: \$1,381.
- ▶ Benefits of the plan: (1) Contributions are tax deductible; (2) Diversification through three funds; (3) Protects your retirement savings dollars against inflation.
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plan d'épargne-retraite
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Rapport trimestriel

le 28 février 1965

	Montant investi	Valeur au marché	Valeur unitaire
Fonds d'obligations gouvernementales	\$ 406,673	\$ 417,587	\$13.522
Fonds d'obligations corporatives	752,964	762,381	14.233
Fonds d'actions ordinaires	1,964,170	2,514,463	19.962
	<u>\$3,123,807</u>	<u>\$3,694,431</u>	

- Cotisation individuelle en 1964: \$1,381.
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- Commandité par l'Association dentaire canadienne à l'intention de ses membres.

Faculty of Dentistry, University of Alberta

H. R. MacLean, D.D.S., Dean, Edmonton, Alberta

On May 10, 1916 the Senate of the University of Alberta approved the following resolution:

"That for dental students now indentured the holding of examinations by part be carried out; but no further students be admitted in this way, and that the university undertake to give instruction in the two years in dentistry in connection with the Medical Faculty; and affiliation be sought with McGill and such other Colleges of Dentistry as appear on our accredited list."

This original course in dentistry was arranged on the basis of a four year program, of which the first two years were offered at the University of Alberta. Undergraduates who completed these first two years were then to be admitted to the third year at the Royal College of Dental Surgeons in Toronto or McGill University in Montreal, where they could complete requirements for the D.D.S. degree by doing two further years of work.

Three students were registered in 1918 at the end of the First Great War, and a year later 11 students started the program. The course operated as a division of the Faculty of Medicine until 1923 when dentistry was recognized as a separate department, with H. E. Bulyea as director. Dr. Bulyea had been the first instructor in 1918 and he was the consultant who was responsible for the early organization.

In 1927 the first class of seven students graduated with the degree D.D.S. after taking the complete four year program at the University of Alberta.

In 1930 the department became a recognized school and achieved faculty status 12 years later in 1942. Dr. Bulyea retired at this time and W. Scott Hamilton succeeded him as dean of the Faculty. Dr. Hamilton retired in 1958 and was succeeded by H. R. MacLean.

The physical facilities of the school have undergone three major periods of changes. From 1922 to 1947 a small clinic, first of seven units and later expanded to 15 units, with a total floor area of approximately 2,000 square feet of space, provided clinical facilities for up to 15 students. In 1948, when approximately 11,000 square feet of space were provided, clinical facilities were increased to 50 units, and the class size averaged 25. In 1960 a complete renovation of existing facilities and the addition of a new wing gave us 66,000 square feet in which we now have 110 units distributed in the general clinic, the orthopaedic area, surgical clinic, and a School of Dental Hygiene.

The number of applicants has steadily increased until in 1964 over 200 applied. Ninety-seven applicants qualified for admission last year but due to the limitation of facilities, 50 was the maximum number that could be accepted. Priority is given

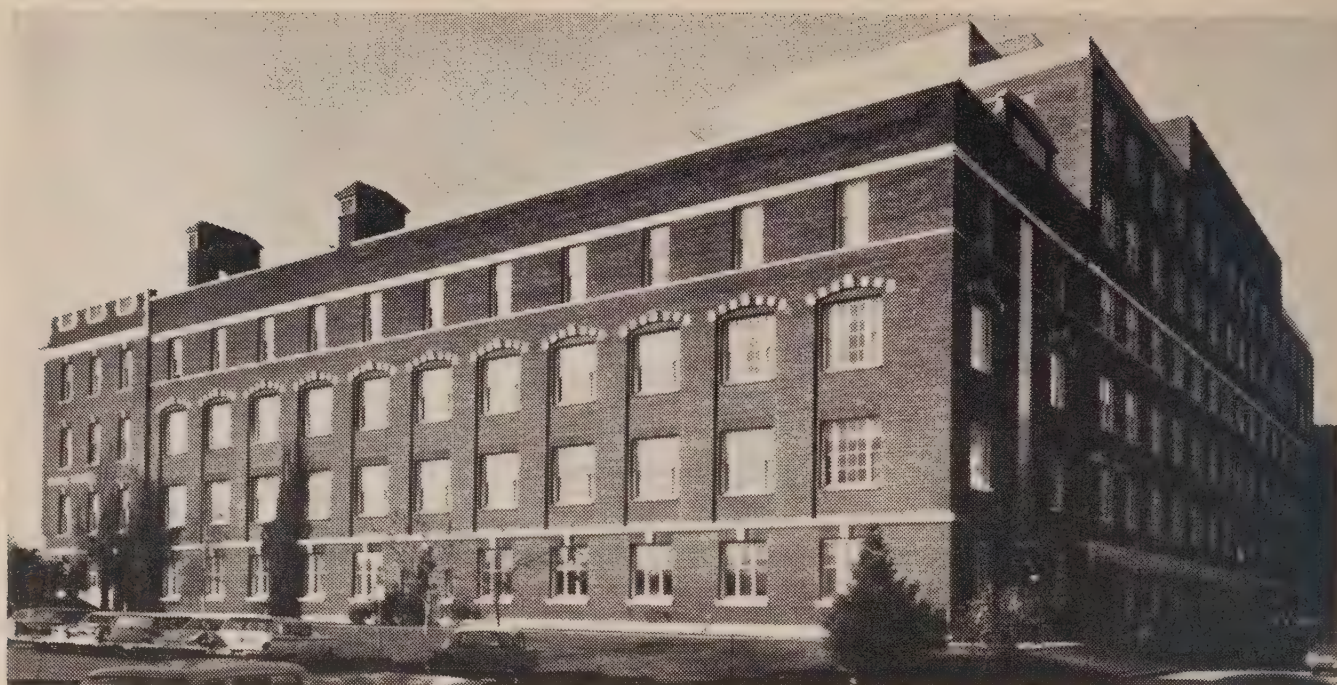


FIGURE 1 Medical Sciences Building, University of Alberta.

to residents of Alberta and second preference to applicants who live in western Canada.

The undergraduate program of instruction is of four years duration, following at least one preprofessional year in the Faculty of Science. The University of Alberta admits only on senior matriculation, with a minimum average requirement of 60 per cent. The subjects in the preprofessional year are: inorganic chemistry, organic chemistry, zoology, psychology and English. All subjects must be passed, and an average of at least 65 per cent obtained in the work of the preprofessional year before proceeding to the program in dentistry. The programs in dentistry are on a year system and students must complete each year before being promoted.

Because of the great amount of material now required to be taught in biology and chemistry, serious consideration is being given to the establishment of a two year preprofessional program following senior matriculation. It is felt that parity must be achieved with the preprofessional program for the Faculty of Medicine so that dental students may be equally trained and prepared for the subjects to be taken in common with the medical student.

The academic year extends from the day after Labour Day in September until

May of the subsequent year, a period of 33 weeks.

In 1966 an aptitude test will be required of all applicants. Applicants who reside outside Canada must submit an application form by April 15, while those from Canada who wish to enter the first professional year are required to make application on or before May 14. The Admissions Committee meets about the middle of June. Lists of acceptances are exchanged with other Canadian universities because many applicants make multiple



FIGURE 2 School of Dental Hygiene, Faculty of Dentistry, University of Alberta.

applications to the different schools. Application forms are mailed on request, and should be returned to the office of the Registrar, University of Alberta.

The instruction fees for the pre dental course are \$350 per year, and for each session of the Faculty of Dentistry, \$500 per year.

Details with regard to awards and financial assistance may be obtained by writing to the Faculty of Dentistry.

The University of Alberta Hospital has a 1,100 bed capacity. In the outpatient department there is a small dental area with two operating rooms. Dental students are on 'block assignments' during their final year. They receive training in the care of hospitalized patients, the paediatric patient in hospital and the handicapped, as well as those with physical disorders where a modified type of treatment is indicated. At the hospital they are also given the experience of working in the operating room, making ward rounds and visiting outlying associated areas.

A three day workshop on curriculum held two years ago resulted in modification of the undergraduate program. In addition, a standing committee keeps the curriculum under constant review.

In 1963-64 a graduate program was approved and courses are now offered under the Faculty of Graduate Studies in the following areas: anatomy, biochemistry, dental materials, microbiology, dental public health, paediatric dentistry. Inquiries regarding graduate courses should

be sent to the chairman, Committee on Graduate Studies, Faculty of Dentistry, University of Alberta.

Approximately one-third of our students take the examinations of the (American) National Board of Dental Examiners. These examinations are taken in two stages. All students take examinations of the National Dental Examining Board of Canada at the end of their final year.

In 1961 a School of Dental Hygiene was started. The class size is limited to 20 students per year. Entrance requirements are senior matriculation with a minimum average of 60 per cent. The instruction fees are \$350 per session. The program is of two years' duration, the sessions corresponding in length of time to those in the undergraduate dental program. The student hygienists receive training at the University of Alberta Hospital and at outlying clinics as well as in their own clinical quarters in the dental school. Graduates are eligible to take the examinations of the (American) National Board of Dental Examiners. A selected number of applicants may also register as 'Dental Auxiliaries' in the School of Dental Hy-

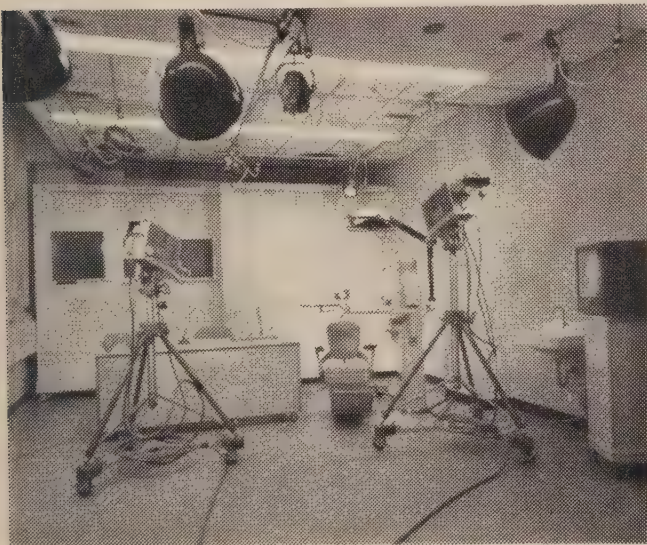


FIGURE 3 Closed circuit television studio, Faculty of Dentistry, University of Alberta.

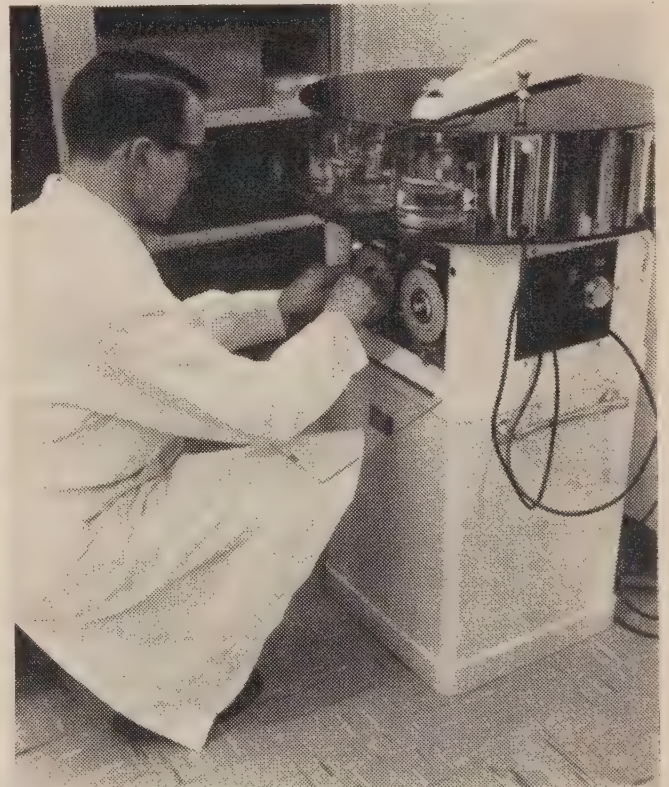


FIGURE 4 Work in progress in the Department of Oral Pathology, Faculty of Dentistry, University of Alberta.

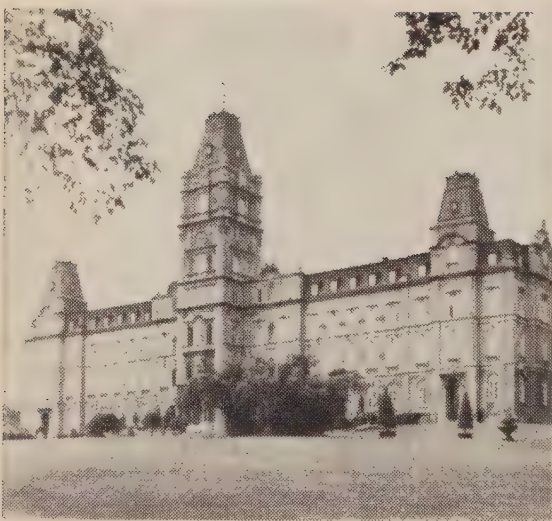
giene. Student Dental Auxiliaries receive the same training as student hygienists, with supplementary field training in health unit centres. Those selected as Student Dental Auxiliaries are eligible for subsidization by the Department of Health of the Government of Alberta. Their tuition and books are paid for, and they receive an additional \$75 per month subsistence allowance. These subsidized students are obligated to serve two years

in health units within the province following graduation.

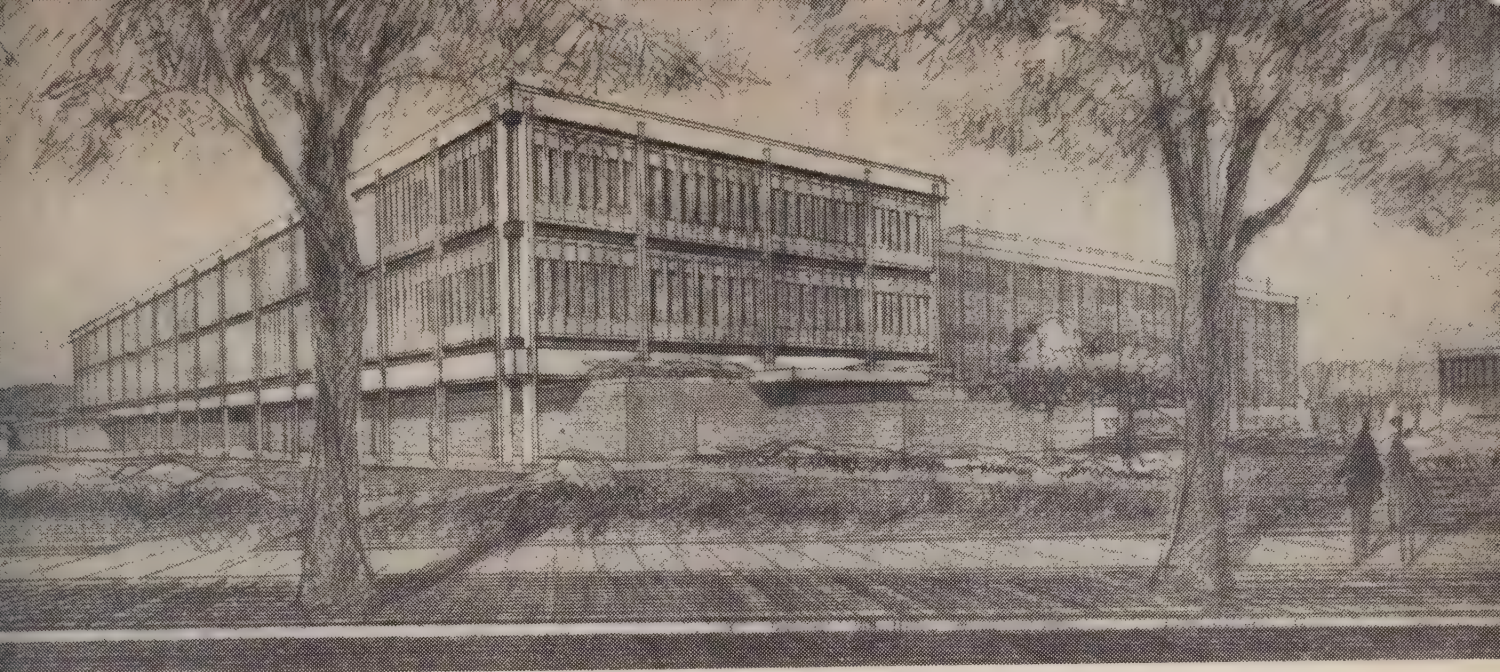
A probable increase in physical facilities in the future will allow for the training of 65 undergraduate dental students and 35 student hygienists. Announcement will be made at a later date as to when the increased numbers may be accepted.

Inquiries may be directed to the Dean, Faculty of Dentistry, University of Alberta.

Medical Sciences Building



Are you going to the C.D.A. National Convention in Quebec in May? If so, you may wish to visit the handsome provincial Parliament Building not far from the Citadel and the Chateau Frontenac Hotel. This impressive structure in French Renaissance architecture, erected in 1886, houses the beautifully decorated chambers of the Legislative Assembly and the Legislative Council. The building is noted for its many beautiful paintings, mural decorations and other priceless works of art.



Faculty of Dentistry, University of British Columbia

S. Wah Leung, D.D.S., Ph.D., Dean, Vancouver, British Columbia

The creation of a dental faculty at the University of British Columbia in 1962 marks the culmination of a 20 year effort by the dental profession of that province to have facilities for the education of future dentists established in British Columbia. For some years the profession had noted with concern a progressive deterioration of the dentist:population ratio, and realized that the situation could only be improved by providing educational facilities within the province. The profession had therefore repeatedly urged the provincial government and the University to assume their responsibilities in this regard.

The University Senate appointed two committees, one in May 1951 and another in December 1953, to study the problem of establishing a Faculty of Dentistry at the University. The first committee reported to the Senate in May 1952. This committee suggested that a Faculty of Dentistry be delayed until the Faculty of Medicine, then being organized, was more firmly established. The second committee, which was actually a reconstituted

version of the first one, reaffirmed the suggestion that a Faculty of Dentistry be established at the University, but urged postponement until additional basic health sciences facilities could be provided on the campus. It further recommended that, when such facilities became available, a consultant in dental education be appointed to conduct a detailed survey of the specific requirements of a Faculty of Dentistry.

Funds for the construction of basic health sciences facilities were made available in 1954. At this time J. B. Macdonald, then chairman of the Division of Dental Research at the Faculty of Dentistry, University of Toronto, was appointed as a consultant in dental education to undertake the survey. Dr. Macdonald proposed to gather information about:

1. The need for dental services in the province and existing facilities for the training of dentists in Canada and the United States insofar as these affected British Columbia;

2. The proper functions of a modern dental faculty, including teaching and research responsibilities, services to the student body and to the community, and relationships with other groups including the Faculty of Medicine;

3. The required physical facilities and the extent to which certain of these facilities could be shared by a medical and a dental faculty; and

4. The program, organization, and capital and operating costs of a Faculty of Dentistry at the University of British Columbia.

The carefully documented report which emanated from this survey was published in 1956.¹ In addition to providing information on the four points listed above, the report contained further strong evidence in support of the need for immediate establishment of a Faculty of Dentistry at the University.

However, in spite of the apparent urgency of the situation, no further action was taken by either the provincial government or the University until 1961. In the summer of that year the University again invited Dr. Macdonald, who had meanwhile become director of the Forsyth Dental Infirmary in Boston, to carry out a follow-up survey in order to bring his 1956 report up to date. The report of this second study again strongly urged the establishment of a dental faculty without further delay.² Dr. Macdonald showed that dental manpower had deteriorated much faster than anticipated; in fact British Columbia's dentist:population ratio had by 1961 already declined to the level predicted for 1970 in Dr. Macdonald's 1956 report.

On the basis of this additional information and in view of the completion of the basic health sciences buildings, the University now moved rapidly toward the establishment of a dental faculty. Agreement was obtained from the provincial government for the necessary financial support, and a dean for the new faculty was appointed in July 1962. At the same time Norman MacKenzie retired as president of the University, and Dr. Macdonald was named as his successor in July 1962.

The delay in starting a dental school, though regrettable in one sense, was for-

fortunate in another way. For during those final years of waiting a university-based Health Sciences Centre, forecast by Dr. Macdonald in his 1956 report, gradually became a reality thanks to the skillful and dedicated efforts of Dean J. F. McCreary of the Faculty of Medicine. A 410-bed university hospital was being planned. Integrated instruction for all students in the health professions was being discussed. A team approach for teaching and for patient services was under consideration. Common facilities for use by students and staff of all the health professions were being developed. It was therefore fortunate that the dental faculty became available to contribute to these arrangements at a stage when our suggestions could receive consideration and when the dental curriculum itself had not yet fully crystallized. This mutual exchange of ideas among the staffs of the several health profession faculties proved most useful in the subsequent planning of the dental school.

One advantage of beginning a dental school when planning of the Health Sciences Centre was still somewhat fluid was the availability of a prime site for the Dentistry Building. We believe that the dental faculty should be fully integrated into all the activities of the University and Health Sciences Centre. The location of the dental building and its physical relationship to the rest of the campus is of major importance if this integration is to be achieved. Fortunately, the section of the campus set aside for the Health Sciences Centre readily permits this. Here an unassigned plot of land contiguous to one of the existing basic sciences buildings and to the future University Hospital was made available for the Dentistry Building. This location facilitates physical integration of the dental facilities with the preclinical sciences on the one hand, and with the clinical departments of the future hospital on the other. The newly opened Woodward Biomedical Library, the proposed Administration Building for the deans and directors of the faculties and schools in the Health Sciences Centre, the central student lounge, book store, student study area, lecture halls, and other common facilities will all be within a few minutes

walking distance of the future dental building. In addition, the provision of a public bus service to the building will provide patients from any part of the city with easy access to the dental clinic. Thus, the dental school will be ideally situated, both for the purpose of furthering its academic program, as well as for the purpose of serving the public.

The Dentistry Building has been planned to provide approximately 70,000 gross square feet of space, for an enrolment of 40 dental students and 20 dental hygiene students per class. Provision has also been made for graduate and postgraduate programs. It is to be a three storey, rectangular structure, oriented in a north-south direction. The outside dimensions of the building measure approximately 80 feet by 280 feet. The middle section of the ground floor of the building is left open as a covered patio, and opens onto a landscaped academic court to the west of the building. This court is bounded on the east by the Dentistry Building, on the north by the Anatomy Building, on the west by the Health Sciences Administration Building, and on the south by one wing of the University Hospital. The court will provide an attractive setting for strolling and outdoor relaxation.

The north end of the ground floor of the Dentistry Building contains the central receiving and storage area and student facilities, such as locker rooms, student lounge, and the student council office. Two 40-seat lecture rooms are also provided. A covered walk from this end of the building leads to a 150-seat health sciences lecture theatre to be built under a new addition to the Anatomy Building which abuts the Dentistry Building. At the south end the ground floor contains laboratories, clinics, and staff offices for the School of Dental Hygiene, a nine-chair clinic and supporting laboratory for graduate paedodontics-orthodontics, a 10-chair surgical suite, and staff offices and research laboratories.

The Main Clinic and its supporting services, such as patient registration and records facilities, central sterilizing facilities, dispensary, and clinical laboratories, are situated in the middle section of the first floor. The Main Clinic is divided into a Junior and Senior Clinic, each with

40 chairs located in individual cubicles. Each student will perform all his clinical work, except diagnosis and surgical operations, in his assigned cubicle. A separate Diagnosis Clinic is located at the south end of this floor. This clinic has four chairs for diagnosis, four intra-oral x-ray rooms which can also serve for oral examination and treatment, an extra-oral and cephalometric x-ray room, and an emergency treatment room. The north end of the floor contains the teaching area for preclinical technique courses, a dental technicians' laboratory and a service laboratory for clinical students. Staff offices, research laboratories and three demonstration rooms are also to be found on this floor.

The second floor of the building is devoted mainly to staff offices, seminar rooms and research laboratories. At the south end of this floor there is an eight-chair postgraduate clinic with supporting laboratory and seminar facilities, while the teaching laboratory for oral biology is located at the opposite north end. Some centralized services, such as a staff conference room, audio-visual teaching aid facilities, animal quarters, and an equipment maintenance area are also located on this floor. The foundation and mechanical services for the building have been planned to accommodate two additional storeys for future expansion.

Apart from the Dentistry Building, additions are also planned for each of the three existing basic health sciences buildings. These total in excess of 50,000 gross square feet. The buildings in question house the Departments of Anatomy, Biochemistry, Pathology, Pharmacology and Physiology, and the independently financed laboratories for cancer research and neurological research. In keeping with our philosophy of establishing closer relationships between the various health professions, dental and medical students receive common instruction in basic science courses from the same staff. Additional personnel, some with dental backgrounds or dental interests, is being appointed to the science departments, and the operating costs of these departments are shared by the two faculties—Medicine and Dentistry. The needs of a dental faculty were not provided for in the

original construction plans of these basic science buildings. Therefore, additions are now being developed to accommodate the enlarged staff and student body. The present facilities, however, do permit the teaching of classes of 68 students. Hence, we were able this academic year to accept eight dental students to supplement the normal class size of 60 medical students. But increased dental enrolment will have to be delayed until the additional facilities in the basic science departments are completed.

The presently enrolled eight dental students, along with their medical counterparts, take the full courses in biochemistry, physiology and medical statistics. Medical and dental students take the same anatomy lectures, but dental students devote more time to dissection of the head and neck, and less to the lower trunk and extremities. Also, a portion of the regular laboratory exercises in microscopic anatomy is replaced by dental histology. While medical students take clinical sessions and a course in the history of medicine, dental students receive instruction in dental morphology and basic dental technology. Although much of the instructional program for medical and dental students is fully integrated, some modifications in course content and curriculum to meet the special needs of the dental students are necessary.

The working drawings for the dental building and the addition to the basic science buildings are nearing completion. Construction will likely begin in the spring of 1965. The clinical facilities will, hopefully, be ready for use by September 1966. By that time the first class of dental students, now in the midst of its first undergraduate year, will begin clinical work.

Many dental educators and students have come to realize that when basic sciences are taught as basic disciplines without reference to their eventual application, they lose their significance for the student. The student fails to relate the principles and facts being taught to his own area of interest, be it medicine, dentistry or pharmacy. In order to compensate for this deficiency, we propose to introduce into our curriculum a multidisciplinary basic science course in oral

biology. The orientation of the course will not be to a particular scientific discipline, but rather to the scientific study of the oral structures as tissues and organs. The course will have two main functions: (1) an intensive study of the biological characteristics of oral structures; and (2) the application of this knowledge to clinical management of the patient. The course will accordingly be presented during the second half of the second year and the first half of the third year so as to bridge, in both time and function, the transition from the two preclinical to the two clinical years. In addition, the course will be briefly resumed at the end of the fourth year in order to bring students up to date with the most recent scientific developments in dentistry before they graduate. We hope in this way to make the basic sciences more meaningful to the student, and enable him to make more effective use of scientific knowledge in clinical practice.

The oral biology course requires a fair amount of time. It is therefore necessary to find this time in an already crowded curriculum. We hope to accomplish this by reorganizing our technique and clinical programs to emphasize basic principles rather than repetitive performance. Progress will be measured in terms of quality of the work done, rather than by the mere fulfilment of a prescribed number of items of work. In this way the student should be able to proceed at his own pace without being tied in a lockstep manner with the rest of the class. By eliminating unnecessary duplication and needless repetition, we hope to reduce the time required to attain that level of technical and clinical proficiency acceptable as the basis for starting in practice.

In order to accomplish the above objective, it will obviously be necessary to provide more instruction on an individual basis. Therefore a satisfactory faculty: student ratio is one of the first requirements. When in full operation, we hope to have a full-time staff of approximately 30, and a part-time staff between 40 and 50. With this staff it should be possible to provide each student with more individual attention and, at the same time, permit the staff sufficient time for research and other scholarly activities.

In recent years there has developed a growing concern among the leaders of the profession over the failure of the dentist as an individual, and dentistry as a profession, to assume a greater share of responsibility for the social and community aspects of dental health. Our education and our practice are believed to have been too narrowly oriented. It is the opinion of some members of the profession that, while we may be serving the individual patient with the highest level of dental care, we have neglected our larger responsibility to society as a whole. At the University of British Columbia we have therefore followed the trend set by several other schools and established a Department of Public and Community Dental Health.

This department is responsible for the traditional subjects of dental history, public health and preventive dentistry, ethics and jurisprudence, and practice management. But its teaching will emphasize the unique ethical and social responsibilities of a profession, the particular attributes that identify dentistry as a profession and distinguish it from other professions, the implications of professional status, and the obligations to society which such status confers on the members of the profession.

Admittedly, this academic program departs in some respects from established tradition. Its success can be measured

only in terms of the degree to which it fulfils our educational objective. This objective, as stated in our calendar, is "... to prepare dentists who will be able to practise their profession with a high degree of technical skill and competence based upon a sound understanding of the fundamental principles of basic biological sciences which underlie the practice of dentistry, and possessed of a deep insight into their social, professional and ethical responsibilities to the community at large. It is intended that the graduating dentist shall have the necessary scientific and technological foundation to begin the practice of modern dentistry, but not that he should be completely knowledgeable in all phases of dental science and dental art. It is hoped to impart to students the concept that graduation is but a beginning step in their professional education and that this educational process must be continued throughout their professional careers through graduate study, postgraduate and continuing education courses, and programs of self study."

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*Faculty of Dentistry,
University of British Columbia*

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Faculty of Dentistry, Dalhousie University

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Dalhousie University, a privately endowed institution, was founded in 1818 with the intent that it should develop in imitation of the University of Edinburgh as a non-denominational centre of knowledge concerned with the needs of a developing community.

In response to the initiative of the Nova Scotia Dental Association, the Maritime Dental College was established by Act of the Nova Scotia Legislature during the session of 1906-1907. Early in 1908 the Provincial Dental Board adopted an accepted plan of operation by which students of the Maritime Dental College were permitted to attend lectures and obtain instruction in the Halifax Medical College "in such subjects as are common to medicine and dentistry." At the same time an agreement was reached with the University for the establishment of a Faculty of Dentistry which would prescribe courses for the degree of Doctor of Dental Surgery, conduct the examinations, and offer the degree. Actual instruction, to be recognized by the University, was conducted in the Maritime Dental College and the Maritime Medical College. Thus began the long and fruitful partnership between the University, the dental profession and the medical profession for the education of dentists to serve the Atlantic community.

The first Calendar of the Faculty stated the following objectives, "the aim is to provide a dental course in harmony with the best standards, and one that will

deserve the loyal support of the dental profession in the Maritime Provinces."

Instructional staff, in addition to those of the Halifax Medical College, Dalhousie University and the Nova Scotia Technical College, comprised 14 members of the Maritime Dental College and some 23 special lecturers from as far away as Saint Stephen, New Brunswick; Charlottetown, Prince Edward Island; and Harbour Grace, Newfoundland. Thus, the new school was designed not only to serve the Atlantic region, but, from the outset, it depended for its development upon the profession in the entire area.

In 1912 an arrangement was made whereby the Maritime Dental College became the Faculty of Dentistry at Dalhousie University and thus was established the first University Faculty of Dentistry in Canada from which the first and succeeding classes of the Maritime Dental College received their degrees.

Despite the most meagre financial resources, the Faculty managed to survive a number of crises, including a very real threat of discontinuance at the height of the depression in the nineteen thirties, and throughout the years it has provided a highly significant service to the people of eastern Canada. By 1947 the governments of the Maritime Provinces and Newfoundland, recognizing the urgent needs and the significant contributions of the Faculties of Medicine and Dentistry, began to provide some of the essential



FIGURE 1 Dalhousie University dental building. The building was officially opened in 1958.

financial support which was required if the schools were to continue in operation. As yet there is no formal arrangement of co-operative support for the two faculties, and although the separate grants do not cover the same proportion of the cost of educating the students from each of the provinces, the total amount has made possible a very significant improvement in the quality of instruction. One rough guide to the progress being made is that while student enrolment has increased slightly less than 80 per cent during the past decade, there has been a sixfold increase in the annual operating budget of the Faculty. This does not include research or capital expenditures. Today, while a student pays roughly \$600 in fees and the government grants from all sources provide \$2,300 per student, the University is also faced with the necessity of finding an additional \$1,400 annually for each student registered in dentistry. There has been dramatic improvement but it is still necessary to curtail significant developments until such time as more adequate financial support can be obtained.

In 1952 the University determined to secure additional support for the Faculty which would permit a marked improvement in the physical facilities and at the same time a doubled class size. As a result, a new building for the Faculty

of Dentistry was occupied in 1958. It was impossible for a private institution to provide more than the minimum, but to the credit of the governors of the University, they insisted that the quality of both the building and its equipment should be of the best.

Concurrent with construction plans, a program to increase the proportion of full-time to part-time teachers was developed with the result that today there is provision for full-time staff in oral diagnosis, oral pathology, oral surgery, orthodontics, paedodontics, periodontics, prosthodontics, and restorative dentistry, and an indication that this number will be augmented further. In addition, the proportion of time devoted to teaching by the part-time clinicians has been substantially increased in recent years.

To date it has been necessary to limit faculty activity primarily to undergraduate instruction, with minimal research and postgraduate programs. The time is approaching rapidly when these latter activities can be extended, although space limitations will continue to impose a significant difficulty.

The current instructional program is based on a minimal admission requirement of two years' work at the university level, followed by four years in the Faculty of Dentistry. Most of the basic science instruction is offered by the

Faculty of Medicine where the introductory courses are given to combined classes of medical and dental students, but in one or two instances the dental students begin specialized instruction at an earlier stage. The program of clinical instruction is based on a philosophy which embodies the principle of total patient care, while ensuring reasonable experience for the students in all phases of clinical dentistry. Most of the students' practical experience is received in the general clinic. Here a junior and a senior student share a common 'cubicle' under conditions which simulate, as closely as possible, a private practice situation. This economic arrangement imposes some problems in scheduling, but to a large extent they are overcome by a longer term for the junior group who have a four to six week period of concentrated clinical practice at the

cessation of the normal period of didactic instruction.

The facilities of the Victoria General Hospital, the Children's Hospital, Camp Hill (Veterans') Hospital, and the Canadian Armed Forces Hospital, most of which are immediately adjacent to the Medical-Dental Campus, are available for instruction to the dental students who are taken to these institutions in small groups during their clinical years.

One feature of particular significance is the opportunity provided for small groups of medical and dental students to attend the weekly clinics in the Victoria General Hospital conducted by the Head and Neck Division of the Nova Scotia Tumour Clinic. The Tumour Clinic is the main referral, diagnostic and treatment centre for the Province of Nova Scotia so that a wide variety of cases is presented.



FIGURE 2 Former Dalhousie University dental infirmary, 1926.

Another program of interest was first introduced on an experimental basis five years ago. It originated from the conviction that dentists have an obligation to develop broader interests than those directly concerned with their day to day professional activities, so that, as beneficiaries of advanced education, they will be able to play a more significant role in their respective communities. Under this program a series of special lectures is presented as a formal part of the curriculum. Once a week, throughout the greater part of each year, all four classes are brought together to meet with the most outstanding people available in the region. In the main, subject areas are selected from the arts, humanities and social sciences with the intent of providing a slight counterbalance to a heavily weighted scientific curriculum, and to stimulate student interests in the origin and development of societies and cultures, and thus provide some background for a better understanding of the contemporary period. No one subject area appeals to every student, but each will find something of particular interest that may be pursued in depth at some later date. It

is difficult and probably impossible to measure the effect of such a program, particularly on a short-term basis, but it is considered sufficiently useful to be continued. At least, its inclusion in the formal requirements of the educational program should make the students aware that the Faculty believes such interests are of true significance to the professional person.

As a further means of providing a much needed service to the region a School of Dental Hygiene was developed in 1961, from which the third class will receive diplomas in 1965. Originally, entrance to the program was based on the same minimal requirements as those for admission to the Faculty of Arts and Science. It was found that the course load in the School of Dental Hygiene was heavier than seemed reasonable for the average student; moreover, there was insufficient time in the curriculum for all of the necessary clinical instruction. Therefore a preprofessional year was added. While the usual problems associated with the development of any new program have been experienced, the dental hygiene course is now established on



FIGURE 3 Dental Clinic, Dalhousie University.



FIGURE 4 Tissue laboratory at the Faculty of Dentistry, Dalhousie University.

a firm basis, and until such time as the facilities for the Faculty are expanded it is possible to admit up to 16 students in each class of the two year diploma course.

When the present accommodation for the Faculty was projected, it was recognized that it would be only the first step to a much larger development. The recent substantial increase in applications from students of the region, together with a growing interest in the provision of more adequate dental service, indicates that steps must be taken in the immediate future to provide more accommodation. The Faculty has recommended that the school should be increased to produce at least 60 graduates a year, a greatly expanded research program, and facilities for graduate instruction and expanded postgraduate programs. Recently the University announced plans for the construction of a seven million dollar basic science facility for the Faculty of Medicine, to be completed in 1967. This development will provide the essential space in the basic science departments to serve a probable increase in the size of the dental school. The next step will be to find

support for the construction of additional physical facilities for the Faculty of Dentistry equal to at least three or four times the present space. Also, it will be necessary to expand the staff, particularly those serving on a full-time basis in teaching and research. No formal decision has yet been reached on these latter proposals but it is evident that they cannot long be delayed.

Dalhousie University has been providing instruction for an increasing proportion of students from the Atlantic Provinces enrolled in English language schools of dentistry in Canada. Presently about 90 per cent of such students are enrolled at Dalhousie. As might be expected from this trend, the proportion of practitioners in the region who are Dalhousie graduates has been increasing so that about three-quarters of the newer practitioners in the four provinces, graduated from English language schools, are Dalhousie graduates. This is one good indication of the significant service rendered by the Faculty to the people of eastern Canada.

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Faculty of Dentistry, University of Manitoba

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Coincident with the preparation of this article, there was announced the establishment of an eighth dental school in Canada at the University of Western Ontario (U.W.O.). This proclamation in November 1964 also coincided with the seventh anniversary of the author's arrival in Winnipeg to organize what was then (1957) a new dental school for Manitoba.

Canada's fifth dental school was founded at the University of Alberta in 1917. It thus took 40 years to bring a sixth school into being at the University of Manitoba (U.O.M.); but in the seven years since 1957 two more have been added—one at the University of British Columbia (U.B.C.) and the other, as mentioned, at U.W.O.

The Faculty of Dentistry of U.B.C. has just accepted its first class. The newest faculty at U.W.O. in London is at an even earlier stage of development. The other five institutions have been in existence for some 50 years or more. The U.O.M.'s Faculty of Dentistry therefore occupies a rather unique position among the nation's eight dental schools for, although it is a relatively young institution, it nevertheless has graduated its first three classes. By now some of the Faculty's early ideas and dreams and hopes have proven totally impractical whereas others have become sensible realities. Perhaps the most valuable contribution the U.O.M.

can make to this series of articles is to recount some of the major problems and minor triumphs which have accompanied the development of its dental school to date. There are several dangers inherent in such an approach. Not the least of these is the fact that, despite an attempt to stress fact rather than philosophy, this account still represents only one man's opinion and this can hardly help but be a biased one. Notwithstanding this, it is hoped that others who were equally involved in the Faculty's growth will readily recognize the strengths and weaknesses of the establishment here described.

ORIGIN AND DEVELOPMENT

The records of the Manitoba Dental Association since 1896 are interspersed with references to the profession's anxiety to have a dental school in Manitoba. Nothing really concrete emerged, however, until 1956 when K. J. Paynter of the University of Toronto was commissioned by the provincial Government to "conduct a survey . . . in connection with the establishment of a Dental College in the Province of Manitoba." That summer Dr. Paynter prepared a report which he presented to the Government. This excellent though controversial document recommended, among other things, the forma-



FIGURE 1 Exterior view of the Faculty of Dentistry, University of Manitoba.

tion of a Faculty of Dentistry at the University with a class size of 30 students per year.

In the spring of 1957 the Government acted on the Report. After gaining University approval through an assurance of adequate financial support for the venture, the Government announced that a Faculty of Dentistry would be created immediately, and that its first class would be accepted as soon as possible.

A dean was appointed in June 1957, but he did not establish residence in Winnipeg until November of that year. Ten months later, in September 1958, a first class of 21 students was admitted. This rather rapid inception of instruction was facilitated by the assistance and co-operation of many persons, including the President of the University, H. H. Saunderson, the Vice-President and Comptroller, W. J. Condo, and the incumbent heads of the basic science departments of anatomy, biochemistry and physiology within the Faculty of Medicine—Professors Thomp-

son, White and Doupe. Dr. Doupe very kindly provided adequate space within his department for teaching laboratories, classrooms and offices needed during the first year of instruction 1958-59. Seven years later, one may well ask whether such an accelerated beginning resulted in 'much haste and little speed.' The answer, from an admittedly prejudiced point of view, is that the result was worth the suffering. Much good and not too much lasting harm emanated from the improvisations necessitated by such a precipitous opening — an opening which was made infinitely easier by the generous and continuing support of successive provincial governments of varied political views.

Those days of 1957-58-59 were hectic ones in many ways. An allocation of \$100,000 was made initially to purchase land in downtown Winnipeg, six miles from the main campus of the University but immediately adjacent to the existing



FIGURE 2 The dental library of the Faculty of Dentistry, University of Manitoba.

Faculty of Medicine and the teaching hospitals. More land had to be acquired later, unfortunately at almost twice the original price. The building itself had to be planned and, in so doing, visits were paid to 35 other dental schools on this continent during the winter of 1957-58. In the course of these visits many architectural ideas were borrowed from, and many helpful discussions were held with, faculty members at other universities.

The sod was turned in July 1958, and the building was ready for partial occupancy by September of 1959, just in time to receive the two classes then in attendance. Equipment and furnishings for the building were also selected. After all payments were made and the structure was more or less fully occupied, a total of some \$2.8 million had been expended on a 64,000 square foot physical plant, which, incidentally, is already too small.

The development of a dental library consumed much attention during this same period. Significantly, the first appointee after the dean was the librarian,

through whose efforts a well chosen collection of over 5,000 volumes has been accumulated. Capital funds of \$50,000 were set aside initially for the purchase of past periodicals and volumes of historical interest. Only about 25 per cent of this amount has been spent, however, due to the generosity of other dental libraries and of private donors. Gifts valued at \$20,000 were received from these sources and, equally significant, many of the items so obtained are simply not available on the open market.

The Dental Building is a two storey structure, complemented by a well finished basement and an animal penthouse. Approximately one floor is devoted to clinical facilities, including a 60 chair Main Clinic. There are separate clinics for oral surgery, oral diagnosis and children's dentistry. Approximately one floor is devoted to research. Another floor is apportioned to preclinical laboratories, administrative offices, library, locker rooms, lounges, photography and illustration areas.

Two other facilities are noteworthy. The first is a self-contained suite of six dental operating rooms along with service areas. In this suite any properly licensed member of the full-time staff may, if he so desires, conduct intramural private practice on a limited time and income basis. This has proved highly satisfactory and has posed few if any problems either inside or outside the School in Winnipeg. The other facility is a dental store which sells kits and consumable supplies to the students at cost. The storesman also serves as a purchasing agent for the Faculty and thereby saves academic staff members much time and trouble throughout the year.

No other activity has been more important than the acquisition of full-time academic staff. In the seven years under review 26 such appointments have been made under the Faculty's budget. Twenty-two of the 26 appointees are still on staff. Two hold a Doctorate of Philosophy as well as a dental degree and 17 possess dental qualification with or without a Master of Science degree, six have a Doctorate of Philosophy or its equivalent or a Doctorate of Medicine, and one has Doctorates of Medicine and Philosophy. One advantage of the staff of a new faculty should be an absence of inbreeding. The 19 staff members with dental qualifications are the products of 14 different undergraduate curricula in Canada, the United States, the United Kingdom, Australia, New Zealand and Holland. Nine came from private practice (four from Manitoba, five from elsewhere) while the other 10 came from nine different teaching institutions. Several of the nine practitioners undertook graduate study before taking up their teaching posts. These studies were supported in part through Faculty bursaries.

A similar picture appears in the basic science appointments. This difference in background has much to commend it, but at the same time, it sometimes makes for difficulty in finding a common meeting ground and unity of purpose on matters of the moment. Since education is best served by diversity of thought, it was never intended that uniformity of opinion should characterize this Faculty. The aim has been fully realized. Nevertheless,

Faculty members have responded well to their new responsibilities in a new environment. Differences have been settled with as much, if not more, goodwill than is displayed in many other schools where basic backgrounds are much more similar. Expressed in another way, Faculty members tend to disagree without necessarily becoming disagreeable.

An attempt has been made to provide each appointee with an opportunity to investigate, write, and think, as well as teach. As part of this plan, maximum teaching loads were initially set at four half days a week. In those cases where the remaining free time has been properly utilized, there has been an inclination to lessen student contact. This should not be construed as a publish or perish philosophy. It is rather an attempt to eliminate the exorbitant teaching demands upon full-time staff which have been a bad feature of many dental schools in the past. A low ratio of teaching hours to total hours has been successfully maintained, and this arrangement will certainly continue in the foreseeable future.

The Faculty is also indebted to a devoted cadre of Winnipeg practitioners who serve as part-time clinical teachers, often at considerable sacrifice to themselves. It would be difficult, if not impossible, to continue without them.

This is perhaps the best point to interject the thanks of the Faculty and of the University to the dental profession which contributed to the Faculty's progress through financial aid of various kinds. Symbolic of this support was the action of the Winnipeg Dental Society a few years ago when it increased its annual dues by \$5 a member for the express purpose of reimbursing the University for the furnishings of the Dental Library. In addition, more than 20 scholastic awards, totalling almost \$2,000 annually, are provided by dental organizations, dentists, dentists' families, or by profession-related groups so that outstanding performance by undergraduate students may be tangibly recognized. This kind of assistance will always be needed and will always be welcome.

Following full accreditation of the curriculum by the Council on Education of the Canadian Dental Association, the first



FIGURE 3 The Main Clinic at the Faculty of Dentistry, University of Manitoba.

class was graduated in May 1962. Two more classes have passed through the College since then. So far as is known, the present alumni total 52. Thirty-nine of these, or 75 per cent have remained in Manitoba. It is significant that in 1957, before the establishment of the School, Manitoba had the lowest ratio of dental students per 100,000 population of any province in Canada. Five years later, when the curriculum was in full operation, the situation was completely reversed, Manitoba having attained the highest ratio of undergraduate students per capita of any of the ten provinces.

For administrative purposes the Faculty is presently divided into three departments: restorative dentistry, prosthodontology and oral biology. Within each department are several sections. All of these sections possess a high degree of financial and pedagogical autonomy. We feel that such autonomy confers more

advantages than disadvantages, although both are present.

Part, but not all, of the basic science instruction is given in the Faculty of Medicine and no description of the Dental Faculty's development would be complete without some mention of its administrative experience with basic science teaching and research. The original plans called for conjoint or integrated instruction given by each basic science department in the Faculty of Medicine. One or more appointments in each of these departments were to be made under the Dental Faculty's budget — a precaution designed to safeguard dentistry's interests. The original assumption was also that each of these appointees would be a dentally oriented person. This plan succeeded in some basic science departments, but failed in others for various reasons, such as the temperament or the interests and aims of the persons concerned. As a

result, there is now no set pattern and the Faculty of Dentistry has a variety of arrangements for basic science instruction. These range from complete integration in some basic science departments to complete exclusion from others. In the latter instance the Faculty has established its own section in the subject. This whole question is a difficult and complex one. Certainly, in ideal surroundings, integrated teaching and research within and by a basic science department is preferable. However, an equally strong case can be made for establishing separate departments in certain circumstances. As the U.O.M. views its varied experiences in this field, the danger of forcing integration is that dentistry may 'win the battle yet lose the war,' for it is a trying and traumatic exercise to be constantly at odds with a basic science department head who sees these things in a completely different light. This individual must rightfully control his own department; therefore his attitude will determine whether the instruction of dental students by his department is poor, mediocre or excellent. If the instruction is poor or mediocre, dental separatism is more desirable.

THE PRESENT

Despite the newness of the School and the widely varying backgrounds of individual staff members, it would be misleading to suggest that the U.O.M. has developed a radically new dental curriculum. Several new ideas have been tried and found wanting, due to circumstances ranging from firmly held prior opinions to shortage of staff in some areas. Curriculum inflexibility exists here as elsewhere, and this is unfortunate. Fears are constantly expressed over the teaching of 'operation-centered' dentistry to the detriment or exclusion of 'patient-centered' dentistry. A lack of completely suitable patients has aggravated this situation. On the other hand, experimentation in public health dentistry and professional conduct courses has been encouraging. Similar response has met student research activities which may hopefully lead to later graduate study. Serious attempts have

been made to continue pure or applied basic science instruction during the more senior years. These have met with varying degrees of success. In the light of this experience, the majority of the staff members would probably agree that 'it is almost as difficult to change a curriculum as it is to move a graveyard, and it often takes almost as long.' Despite our mixed record of curriculum modification, and having graduated three classes, we are now in a better position to assess our entire program. Accordingly, a curriculum review committee was appointed early in 1964, and its report is awaited with interest. This has resulted in self-evaluation by each section of the Faculty. The Committee first established a set of aims for dental education. These were then adopted by the Faculty as a whole. The Committee is now asking each section head to determine how, when and where, his particular subject conforms to and achieves these aims. Each section head is also asked to describe the standards whereby student achievement is measured. Acceptable curriculum changes will hopefully emerge from this study. These changes will result in better presentation and correlation of instructional material.

One radical innovation in the dental hygiene curriculum is noteworthy. In accordance with amendments to the Manitoba Dental Association Act of 1960, dental hygiene students are taught to take complete denture impressions and to register occlusal relationships. The performance of these additional duties and the system of instruction are being evaluated more carefully than any other part of the curriculum in dental hygiene or in dentistry. Needless to say, the results of this experiment are awaited with keen interest in many other places apart from the Faculty.

During the early days of the School there was an embarrassing lack of good applicants for the undergraduate dental course. The quota of 30 students was not filled despite waiting lists of 70 and 120 applicants in each of the first two years of operation. This problem is still with us. From the beginning the Committee on Admissions agreed that the quota should not be filled by students who, by virtue

of preprofessional academic records, appeared incapable of handling the dental curriculum. Though this philosophy may be questioned, no well qualified applicant has ever been refused admission to the Faculty. To some unsuccessful candidates and their families this policy may appear synonymous with hardship, waste and even injustice. But in the long run we consider it the least damaging procedure for all concerned.

The actual selection process is somewhat unusual. The Committee on Admissions is composed of nine members. Only four of these are dentists. The President of the University acts as chairman of the Committee which normally meets only once a year, about June 15. All applicants are considered at that time. Admission is almost entirely based on the candidate's overall preprofessional academic average achievement. First preference is given to Manitobans or to those who undertook preprofessional studies in Manitoba. Second consideration is given to students from neighbouring Saskatchewan which has no dental faculty. The system involves no compulsory interviews and no compulsory aptitude tests. Its very objectivity raises some problems on occasion, but the calibre of student selected seems to compare favourably with the results obtained in more complex admission procedures. Nevertheless, it is felt that more attention should be paid to aptitude, and prospective students are encouraged to take the present American Dental Association aptitude test. The Faculty favours the adoption of a modified A.D.A. aptitude testing program on a national basis in this country.

Research has played a large part in the development of the Faculty, and every newcomer to the staff is encouraged to pursue some research activity. The Faculty presently receives over \$100,000 annually to carry out a wide spectrum of investigative activities, ranging from metabolism of the dental plaque to effectiveness of various casting procedures. Additional basic research is being pursued in the fields of lipid, bone and salivary gland metabolism.

Along with research has emerged a rather interesting graduate program, and it is significant that the University of

Manitoba is one of the few universities on this continent which grants a Doctorate of Philosophy in oral biology. The Master of Science degree may be obtained in any of five areas under the auspices of the Faculty of Graduate Studies. The major effort in each of these areas involves one of the basic sciences.

A true picture does not always emerge when small numbers are reviewed statistically, but more than 10 per cent of our dental alumni are presently engaged in graduate study here and elsewhere. This figure assumes greater significance when one considers that less than three years have elapsed since the first class was graduated.

Continuing education through refresher courses has been attempted on a rather wide scale, with checkered results. It is frustrating and embarrassing when widely known and highly regarded visiting clinicians and essayists perform before a disappointingly small audience. Many valid and some invalid explanations are advanced for this apparent disinterest on the part of the profession. Whatever the reason, the University may soon have to revise its role in continuing dental education or go bankrupt! On the positive side, however, there have been some sources of satisfaction. These include several evening courses for dental assistants and dental laboratory technicians, as well as an increase in dental study clubs in Winnipeg who use Faculty facilities as well as Faculty members as mentors.

THE FUTURE

The past seven years have taught the administrators of this Faculty to be wary about issuing firm edicts regarding the Faculty's future endeavours. Several aspirations may nevertheless be voiced.

More good dental students are needed. As always, it is the practising dentist who often provides at least the initial spark to recruit such candidates. The Faculty does not relish the reputation of being labelled as regressive; but unless there is an upsurge of public demand for more dental service coupled with more and bet-

ter local student applicants, it sees little reason for rushing into larger undergraduate classes. Our reasoning is based on awareness of the present difference between dental needs and dental demands in Manitoba, and on the previously mentioned experience with insufficiently qualified applicants.

More space is needed, particularly for graduate study and research, in both the clinical and basic science areas. More and better qualified staff is also needed for teaching and research, and for the same reasons as stated in the Report of the Royal Commission on Health Services. More thought must be given to the training and proper integration of all dental auxiliaries in dental practice. More attention must be paid to the means whereby basic sciences may be better co-ordinated with clinical practice. More flexibility and individuality must be incorporated in the dental curriculum, and more consideration must be given to 'patient-centered' teaching. More attention must be given to continuing education by both the practitioner and the dental school in this period of rapidly expanding knowledge. More attention must also be paid to the total role of the dentist in society; but just how a dental school can most effectively teach this, or whether a dental school can teach it at all is worthy of a paper itself.

CONCLUSION

The author has previously referred to the forces of change and the resistance

which such forces invariably encounter. A final word may emphasize the subject further. The undergraduate dental program at U.O.M. has proceeded along traditional lines. However, the traditional pattern is constantly being questioned. The Faculty is frequently confronted with queries from within and from outside about its seemingly controversial or even conflicting functions in a demanding and critical age. The questions posed in this regard are endless, and the answers are seldom rendered with unanimity. Change comes slowly, even in a new school, and certainly should not be implemented capriciously, or without regard for the consequences.

The President of the United States recently described himself and his Administration as being 'prudently progressive.' He coupled with this explanation the comment that such an approach invariably evokes cries of 'reactionary' from the left and 'communism' from the right. For a university, though it should be in the forefront of creative thought, prudent progressivism is also probably the best course to follow in the 1960's. A similar profession of faith accurately describes the development of this Faculty in the eyes of its principal planners. Whether this view is shared by others is, of course, quite another matter. The ultimate verdict will be based on the people and on the work that emerges from the undergraduate, graduate and research programs of the Faculty of Dentistry of the University of Manitoba.

780 Bannatyne Avenue

Every dentist should be protected against disability due to sickness or accident. Canadian Dental Association Pension and Insurance Plans have a variety of sickness and accident policies to suit individual needs. Why not write for further details to C.D.A. Pension and Insurance Plans, 2249 Yonge Street, Toronto 7, Ontario.

Faculty of Dentistry, McGill University

*M. A. Rogers, *D.D.S., Montreal, P. Quebec*

The casual visitor to the McGill Dental Clinic in the Montreal General Hospital is usually impressed by what he sees. It is a busy place, especially during the academic year. Dentists are available to the hospital around the clock, every day of the year, rendering emergency service to in-patients and out-patients. It would be difficult for the visitor to visualize the slow, step by step development which brought our school from its humble beginning to the present point. Nor would he imagine that these facilities, though only ten years old, are rapidly becoming inadequate in the light of today's needs.

The story of an institution or an association is more than a progression of incidents and dates; it is a story of people. This is as true of the McGill Dental School as it is of the Canadian Dental Association. Both began at about the same time and it is interesting to note how closely their records are interwoven. It was at McGill University in September 1902 that some 200 dentists—nearly 20 per cent of all of the dentists in Canada at that time—met to establish the Canadian Dental Association. F. A. Stevenson of Montreal was elected the Association's first president.¹ The Stevenson Gold Medal is still offered at the McGill Dental School, although it is now known as the Montreal Dental Club Medal.

Through the years many McGill graduates have worked diligently for the Canadian Dental Association. A. L. Walsh, J. K. Carver and A. G. Racey all were presidents of the Association while holding senior teaching posts at the McGill Faculty. Many others have served the Association long and well on various committees.

The history of the McGill Faculty of Dentistry goes back to 1903. To understand its origin, however, we must go back even further to 1892. That year the Association of Dental Surgeons of the Province of Quebec had founded in Montreal a dental school known as The Dental College of the Province of Quebec. W. G. Beers was its dean. Instruction was given in French and English and the school was situated at 2 Phillips Square. Four years later the school became associated with Bishop's College in Lennoxville, P. Quebec, as a department of the then existing medical faculty that Bishop's College maintained in Montreal. Under this arrangement Bishop's College provided the academic training while the dental college gave clinical instruction. Bishop's College granted the first D.D.S. degree in the province of Quebec.²

In 1904 the medical faculty of Bishop's College was absorbed by the Faculty of Medicine at McGill University. In consequence the old dental college ceased to exist.

Meanwhile, in the 1903 minutes of the McGill University Faculty of Medicine in

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November of that year, we read: "That this Faculty is in favour of the establishment of a Department of Dental Medicine" A later entry states that the McGill Dental School was established in June 1904 as a department of the Faculty of Medicine with Peter Brown, L.D.S. and Drs. F. G. Henry, D. James Berwick, E. R. Barton, James B. Morison, A. A. Angus and W. D. Smith as teachers.

With the establishment of the McGill Dental School an interesting controversy arose over what degree was to be offered. Bishop's College had offered the D.D.S. degree but McGill University first thought that the degree of Master of Dental Surgery should be granted after successful completion of the four years in the dental course. Many dentists were incensed at this. They regarded this as unwarranted discrimination, particularly since McGill University offered a Doctorate in Veterinary Medicine at the time. The matter was successfully resolved and the degree of D.D.S. was offered to the first three graduates in 1908.

The Calendar of 1910 lists D. J. Berwick as chairman of the Dental Executive, S. J. Ibbotson as director and Leo Doran as superintendent of the University Dental Clinic. Among the first graduates in 1908 was G. L. Cameron whose name is familiar to many for his subsequent contributions. Dr. Cameron was for many years professor of prosthodontics at McGill University. He was also one of the founders of the Montreal Dental Club Annual Fall Clinic.

The strain of conducting both a busy practice and the affairs of the Dental School must have been great, for in 1913 Dr. Berwick resigned from the Dental Executive. He was replaced by A. W. Thornton, a graduate of the Royal College of Dental Surgeons of Ontario.

Dr. Thornton taught crown and bridge prosthodontics, but is best remembered, by those who knew him, as a gifted public speaker. Indeed, he was the principal speaker at the unveiling of the G. V. Black Memorial in Chicago. He was a fellow of the American College of Dentists and was president of the American Association of Dental Schools in 1926. It was due to his efforts that, in 1920, the

Dental School became the Faculty of Dentistry of McGill University and Dr. Thornton was appointed dean.

The clinical teaching facilities during this period were less than ideal. The McGill Medical School had been founded in 1823 and the Montreal General Hospital had existed since 1821. The first dental clinic, established by the University in the old Central Division of the Montreal General Hospital, was in a room which had been used as a morgue. In 1923 a temporary one-storey annex to the hospital was built to accommodate the large classes after World War I. In these 'temporary' but never adequate quarters all later classes, up to and including 1955, were trained.

High standards were maintained despite such makeshift facilities and many outstanding men were trained who made the McGill Dental School what it is today. Among them were G. L. Cameron, J. S. Dohan, Chas. Moore, A. L. Walsh, Paul Rowe, Roger McMahon, W. C. Bushell, A. W. McLelland, Gerald Franklin, D. P. Mowry, M. L. Donigan, I. K. Lowry, R. E. Dagg and W. G. Leahy. Yes, who will ever forget Dr. Leahy! One might paraphrase Churchill and say, "Never was so much owed by so many dentists to one single man."

Dr. Leahy became clinical director in 1924 and remained in this post until 1956, one year after the clinic moved into the new Montreal General Hospital. His administrative skill and his ability in managing students, staff and patients may never be equalled. The anecdotes that former associates tell of him merit a full article in themselves.

Failing health forced Dr. Thornton to resign as dean in 1927. The post was filled by A. L. Walsh who had been in charge of clinical instruction since 1924. Dr. Walsh was acting dean until 1940 when he was appointed dean. His guiding hand was evident during the years when emphasis in dental education shifted from technology to the biological sciences. Dr. Walsh was president of the American Association of Dental Schools in 1941-42 and president of the Canadian Dental Association in 1942-43. He holds an honorary D.D.S. from the Université de



FIGURE 1 A portion of the McGill University Dental Clinic in the Montreal General Hospital.

Montréal; he is also a fellow of the International College of Dentists, of the American College of Dentists and of the American Academy of Dental Science. In 1956 Dr. Walsh was made a fellow in Dental Surgery of the Royal College of Surgeons of England.

Of particular note, too, was his part in establishing accelerated courses to supply more dentists for the armed forces during the war years. One hundred and eighty-four McGill dental graduates served in the armed forces during the Second World War. This number represents 41 per cent of all those who had graduated from the McGill Dental School from 1908 to 1946.³

The increased post-war registration led Dr. Walsh to inform the Faculty that a full-time dean was necessary. Unable to spare the necessary time himself, he resigned in 1948.

His successor, D. P. Mowry, was appointed full-time dean in August 1948. Dr. Mowry held this post until his death in 1955. This was another era of great progress. The facilities now occupied in the new Montreal General Hospital were planned by Dean Mowry and his associates, chiefly W. F. Walford and James McCutcheon. It was unfortunate that Dean Mowry did not live to see this dream completed.

Dr. Mowry was a remarkable man with many interests. He was a periodontist of international renown and had been professor of that department before becoming dean. He was twice president of the College of Dental Surgeons of the Province of Quebec. He was a fellow of the American College of Dentists, a fellow in Dental Surgery of the Royal College of Surgeons of England and a member of the American Academy of Periodontics. His non-professional interests were wide and varied. He was a member of the Montreal City Council, a governor of Sir George Williams University, founder and president of the Montreal Light Airplane Club and president of the St. James Literary Society. He, too, will long be remembered as a talented public speaker.

During this period there appeared a new generation of contributors to the McGill Faculty. One cannot mention them all, but the names of A. G. Racey, W. F. Walford, R. T. Lamb, W. J. Johnston, Frank Edward, P. J. Gitnick, J. J. McCarthy, Donald Gordon, Paul Marchand, Wm. Stockwell and J. E. VanVliet come quickly to mind. Many of these still serve today.

When the new Montreal General Hospital was built, the teaching clinic of the Faculty of Dentistry retained its position

as the dental department of that institution. This rather unique situation brings together not only medicine and dentistry but, more important, physicians, surgeons and dentists as an efficient team. Interdepartmental consultations are facilitated. All hospital departments offer the utmost co-operation and one can readily visualize the great convenience to the dental department in having such services as pathology, bacteriology, radiology, haematology and anaesthesiology readily available.

The new dental clinic went into use on May 20, 1955. It is located on the third floor of the Pine Avenue Building and provides facilities for training 38 undergraduates per class.

The latest equipment is provided in the Dental School. Every teaching unit is now equipped with high-speed cutting instruments, and chrome-cobalt partial denture castings are fabricated in the hospital laboratory.

McGill University, in co-operation with the teaching hospitals, offers the McGill-Hospitals dental internship program. This is a junior rotating dental internship.

The program has become increasingly valuable and popular. Five participants are now enrolled in a rotating scheme involving the Montreal General, Montreal Children's and Royal Victoria Hospitals. One residency in paedodontics is offered at the Montreal Children's Hospital.

The close integration of the Dental School with the Montreal General Hospital has made possible the introduction of another unique feature into the undergraduate training program. In 1957 a student internship program was instituted. This has proved to be an interesting adjunct to the teaching program. At any given time during the school year, two senior students serve as student interns at the Montreal General Hospital. The period of service is for two weeks during which these students assist the graduate interns. They live in residence, wear interns' uniforms and live in the hospital atmosphere for this period. They are on call with the interns for after-hour emergencies and assist at oral surgical operations being done under general anaesthesia in the hospital operating theatre. This training

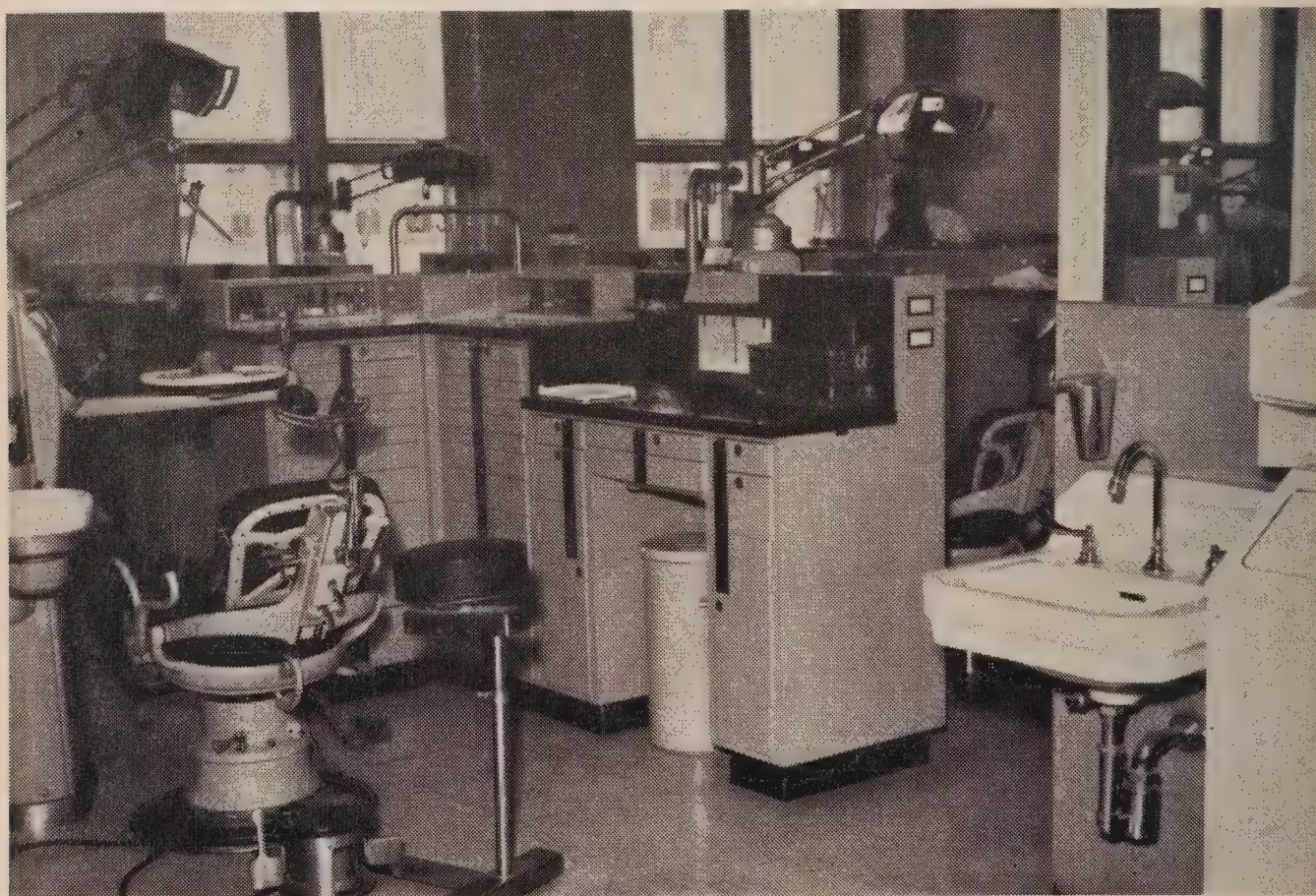


FIGURE 2 Typical student operating area in the McGill University Dental Clinic.



FIGURE 3 A portion of the students' clinical laboratory, Faculty of Dentistry, McGill University.

has proved to be invaluable, particularly for the candidate who may enter general practice in a smaller centre immediately upon graduation.

The Dental Faculty remains closely associated with the Faculty of Medicine. Indeed, it could not have existed throughout these years without this fine co-operation. The basic sciences of gross anatomy, histology, physiology, biochemistry, bacteriology, pathology and pharmacology are still ably taught to dental students by the respective departments of the Faculty of Medicine. The same spirit of co-operation exists with other faculties within the University. The Faculty of Engineering has long offered an excellent course in metallurgy to our second year students.

Many of the school's recent advances are directly attributable to the present dean, James McCutcheon. Dr. McCutcheon was appointed acting dean upon the death of Dean Mowry in 1955 and confirmed as dean on March 1, 1956. Dean McCutcheon graduated from McGill University in 1946. He received his M.S.D. degree in prosthodontics from the University of Michigan in 1948 and returned to teach at McGill University. He is still professor and chairman of the Department of Prosthodontics.

The teaching staff has grown rapidly during the past few years through the addition of a number of able and well trained young men. There are currently some 80 dentists on staff. Seven of these are full-time, three are half-time, three are quarter-time. The remainder are dedicated practitioners who continue to contribute one or more half-days per week as many have done so loyally ever since the school began.

Three dental technicians are now employed at the School. They assist the students in laboratory procedures and assume the responsibility for chrome-cobalt castings. The remainder of the staff comprises receptionists, secretaries and clerks without whose efficient help the whole operation would be impossible.

What of tomorrow? Where should the McGill Faculty go from here? Today, more than ever before, it is obvious that in this changing world one cannot stand still.

During the 60 years of its existence the Dental School at McGill University has offered only undergraduate training. We make no apologies for this. This has been the School's 'raison d'être' and surely a substantial contribution has been made. However, the needs of the future seem to call for graduate programs, greater

contributions to research and possibly the training of auxiliary personnel, however the latter is to be interpreted.

The Faculty has been handicapped during the past 60 years because its pre-clinical and clinical facilities were separated in two different buildings one quarter of a mile apart. This has made for some inefficiency and difficulty since many staff members must serve in both areas.

It is now apparent that larger facilities must be provided in the near future in order to train more dentists. It is the Faculty's fervent hope that it may remain associated with the Montreal General Hospital but one is constantly reminded that the hospital, too, has developmental problems. Briefly, McGill University hopes to consolidate its entire School under one roof in an area which can accommodate larger classes and provide facilities for research and graduate training.

The bulk of the teaching staff will probably continue to be drawn from part-time teachers who maintain practices in the Montreal area. They made the School what it is and they will continue to bring to the teaching program the practical realities of dental practice.

Yet, as in so many other fields, the small family beginning so well initiated

by a handful of dedicated men has now become big business and vitally important business. Thanks to its able and energetic dean, the McGill Faculty is well on the way to having a full-time chairman for each department within the School. This plan will continue and the School will advance its own philosophy as it concurrently observes the trends in dental education in Canada and elsewhere in the world. The next decade will be interesting, challenging and vitally important to Canadian dentistry and, therefore, to the McGill Dental Faculty. We look forward with confidence to this challenging period, having in mind the high calibre of young men and women who are being admitted to the dental profession today. They will be the teachers and planners of tomorrow. Theirs should be an interesting chapter in the story of the McGill Dental School.

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Montreal General Hospital

French Speaking Nations of the World • French is now the most widely spoken language in the world according to the number of nations where French is the official language or one of two or three official languages. French is spoken in 25 countries: four in Europe (Belgium, France, Luxembourg and Switzerland), two in America (Canada and Haiti), 19 in Africa (Cameroon, Central African Republic, Ex-French Congo, Ex-Belgian Congo, Ivory Coast, Dahomey, Gaboon, Guinea, Mali, Mauritania, Republic of the Niger, Senegal, Tchad, Togo, Upper Volta, Madagascar, Algeria, Ruanda and Burundi. Five other nations use French as an administrative or secondary language: Cambodia, Laos, Morocco, Tunisia and Vietnam. All in all, one out of every four independent nations is now of "French expression."—Jacques Capelovici, *Revue de la Confédération des Travailleurs Intellectuels*.



FIGURE 1 L'Hôpital dentaire Laval 1913-42 • Laval Dental Hospital, 1913-42.

La Faculté de chirurgie dentaire de l'Université de Montréal

J.-P. Lussier, D.D.S., Ph.D., Doyen, Montréal, P.Qué.

Il y a à peine deux mois, la Faculté de chirurgie dentaire de l'Université de Montréal célébrait avec pompe le soixantième anniversaire de sa fondation. C'est en effet le 15 janvier 1904 que le Bureau provincial de chirurgie dentaire (l'équivalent du Bureau des gouverneurs du Collège des chirurgiens dentistes de la province de Québec) se réunissait pour donner son assentiment à la création d'une école dentaire de langue française qui serait affiliée à la succursale montréalaise de l'Université Laval. L'Ecole de chirurgie dentaire de Montréal prend donc officiellement existence le 25 janvier 1904, alors que son bureau de direction s'assemble pour élire les officiers de cette école et prendre succession de la section française du Collège dentaire de la

province de Québec à la charge de former les dentistes de langue française de cette province.

Jusqu'en 1913, l'Ecole s'est contentée d'immeubles plutôt modestes. Cette année-là, elle s'installe dans l'Hôpital dentaire Laval, un spacieux édifice sis à l'angle des rues St-Hubert et DeMontigny, spécialement construit pour accommoder les élèves et les professeurs en cliniques, laboratoires, salles de cours, bureaux, etc. (Cet édifice est maintenant occupé par les bureaux et les laboratoires du Ministère de la Santé de la province de Québec.)

En 1920, l'Université de Montréal obtient une charte qui la libère de la tutelle de l'Université Laval et lui reconnaît pleine autonomie. L'Ecole dentaire profite

de ce changement pour se faire inscrire dans la liste des facultés de la nouvelle université. Cette autorisation est accordée le 31 mars 1921. Elle prend donc l'appellation de Faculté de chirurgie dentaire qu'elle a conservée depuis.

Quand, à l'été de 1942, l'Université prend possession de ses quartiers sur le Mont Royal, la Faculté abandonne ses locaux pour aller occuper principalement le rez-de-chaussée du secteur est de l'édifice de la montagne. Des 48,000 pieds carrés de surface réservés à l'usage de la Faculté, 10,000 sont affectés aux cliniques, 7,000 aux laboratoires d'enseignement et 3,100 aux salles de cours. Les bureaux de l'administration de la Faculté sont situés au premier étage, ainsi que la bibliothèque.

ADMISSION DES ÉLÈVES

Depuis au-delà de 40 ans et en conformité avec la loi dentaire de la province de Québec, la Faculté exige des aspirants aux études en chirurgie dentaire, qu'ils soient porteurs d'un baccalauréat ès arts ou ès sciences. En adoptant cette politique, la Faculté se restreignait à recruter ses élèves parmi les finissants des collèges classiques affiliés aux universités de la province de Québec et de certaines institutions catholiques de langue française des autres provinces, surtout du Nouveau-Brunswick et de l'Ontario. Elle a ainsi aidé aux populations de langue française en dehors du Québec à former leurs dentistes dans un milieu canadien-français.

Vers 1950, le Conseil d'enseignement de l'Association dentaire canadienne imposa aux facultés qu'il avait charge de surveiller, de se montrer plus rigoureuses sur le contenu des programmes de sciences des années préparatoires à l'entrée en chirurgie dentaire. La Faculté dut alors recourir au P.C.B., ou année pré-médicale, que la Faculté des sciences offrait aux candidats à la médecine depuis une vingtaine d'années. Cette mesure n'était que transitoire, car la Faculté des arts de l'Université de Montréal mit bientôt en vigueur des programmes à options qui ont, depuis, permis aux aspirants en chirurgie dentaire d'obtenir leur diplôme de baccalauréat tout en satisfaisant aux

exigences des facultés professionnelles. Les élèves en provenance de collèges où les programmes à options ne sont pas encore en vigueur doivent compléter l'année pré-médicale avant d'être jugés admissibles en chirurgie dentaire.

Les exigences actuelles sont les suivantes:

1. tout aspirant doit avoir obtenu un diplôme de baccalauréat ès arts ou ès sciences d'une université canadienne ou l'équivalent;

2. sa connaissance de la langue française doit être suffisamment étendue pour pouvoir tirer profit d'une instruction qui lui sera donnée en français;

3. le programme d'études du baccalauréat doit comprendre au minimum dix heures-semestres de chimie, incluant la chimie organique, et six heures-semestres dans chacun des sujets de biologie, mathématiques et physique.

Tout programme de sciences doit inclure une proportion normale d'heures de laboratoire. Sont considérés comme sujets optionnels recommandés, les langues anciennes et modernes, la philosophie et la sociologie.

Depuis 1962, la Faculté impose un test d'habileté manuelle analogue à celui de la faculté dentaire de Toronto et des épreuves psychométriques permettant de juger des qualifications et aptitudes des candidats. Depuis cette date également, le comité d'admission a établi comme politique de ne plus considérer les demandes qui lui parviennent après le 1er juin.

LE CORPS ÉTUDIANT

Dans les locaux réservés à l'usage de la Faculté de chirurgie dentaire dans l'édifice de la montagne, il était prévu d'accommoder 60 élèves en première année. Compte tenu de l'élimination habituelle qui se produit au cours des années du début et de l'exiguité des locaux, les cliniques furent aménagées pour accommoder un nombre optimum de 52 élèves dans chacune des années terminales. Cependant, les besoins croissants de la profession et la disponibilité de candidats mieux préparés ont incité les

autorités de l'Université à s'engager dès maintenant dans un programme d'expansion. Déjà en 1964, la Faculté admettait 70 élèves en première année avec le dessein de pousser ce programme jusqu'aux limites jugées acceptables par les autorités universitaires et gouvernementales. Alors qu'en 1955, le nombre d'élèves réguliers inscrits à la Faculté était de 132, il passe à 218 en 1964 et on s'attend à ce qu'il dépasse 300 avant 1970.

Même si la Faculté a contribué occasionnellement à la formation de dentistes des autres provinces du Canada et de la Nouvelle Angleterre, elle a surtout assuré le renouvellement des effectifs de la profession dentaire de la province de Québec. Plus de 95 pour cent de ses élèves sont résidents de cette province. La région métropolitaine fournit une large part mais une proportion, variant de 20 à 30 pour cent selon les années, nous vient des autres centres urbains de la province. Nos étudiants se recrutent surtout dans le milieu petit bourgeois puisqu'ils sont issus de familles dont le père est fonctionnaire ou employé à salaire moyen, commerçant ou professionnel.

La Faculté est sollicitée à chaque année par des dentistes francophones immigrant au Canada de les admettre à un programme qui leur rendrait possible l'homologation dans la province de Québec. Le nombre de candidats acceptés dépend de leurs qualifications et des places disponibles dans les classes où ils pourraient être introduits; mais d'une façon générale ce nombre excède rarement cinq.

CORPS PROFESSORAL

Le corps professoral comprend 11 titulaires, trois agrégés et dix assistants-professeurs dont 13 sont à plein temps et 11 à demi-temps. Ce noyau de professeurs de carrière est aidé dans ses fonctions par un groupe de 20 praticiens qui prêtent leur concours dans les divers secteurs cliniques et qui se distribuent en six cliniciens et 14 assistants de cliniques. Parmi les 24 professeurs de carrière, sept se dévouent plus spécialement à l'en-

seignement des disciplines fondamentales comme l'anatomie, l'histologie, la biochimie, la pharmacologie et de pathologie.

La Faculté de chirurgie dentaire de l'Université de Montréal, sans viser à établir dans ses cadres des départements ou divisions de sciences de base, tels qu'il en existe dans d'autres facultés comme la médecine et la pharmacie, s'est occupée néanmoins à recruter et à former des professeurs qui puissent réaliser plus adroitement l'intégration tant désirée entre les disciplines de base et les applications cliniques et s'adonner à la recherche fondamentale.

LE CURRICULUM RÉGULIER

Le curriculum dentaire en vigueur à la faculté dentaire de l'Université de Montréal est dans ses grandes lignes identique à celui des facultés anglo-saxonnes du continent nord-américain. Il se distribue sur quatre années académiques et comprend des sujets empruntés à la biologie et aux sciences cliniques médicales et dentaires.

Les sujets biologiques sont concentrés dans les deux premières années du cours. Cinquante-cinq pour cent des heures d'enseignement de la première année sont réservées à l'anatomie, la physiologie, la biochimie et l'histologie. Quarante-deux pour cent des heures d'enseignement en deuxième année sont réservées à la pharmacologie, la bactériologie et la pathologie. Ces disciplines de base couvrent 25 pour cent du temps total du curriculum. L'entraînement pré-clinique et clinique se poursuit depuis la première jusqu'à la fin de la quatrième année et comprend l'étude de sujets tels que l'anesthésiologie, la chirurgie, le diagnostic et la médecine buccale, la dentisterie opératoire, l'endodontie, l'orthodontie, la matière médicale, la médecine et pathologie buccales, la pédodontie, la périodontie, la prothèse, l'hygiène, la dentisterie préventive et la radiologie.

Les sessions académiques couvrent 30 semaines d'instruction à l'exclusion des périodes d'examens qui doivent s'ajouter en fin de chaque terme.

Depuis quelques années déjà, la Faculté impose aux élèves qui entrent en



FIGURE 2 La clinique de dentisterie de restauration. Cette clinique peut accommoder 52 étudiants. Elle sert alternativement aux étudiants de troisième et de quatrième années • The restorative dental clinic equipped with 52 chairs and units, is alternately used by the third and fourth year students.

troisième année un programme d'instruction clinique d'une durée de deux ou trois semaines. Ce programme débute vers le 20 août et se continue jusqu'à l'ouverture officielle de l'année académique. Durant cette période, les élèves sont orientés d'une façon uniforme dans les divers services cliniques et sont mis au courant des différents protocoles qu'ils doivent suivre au cours de leur entraînement clinique.

C'est, de fait, en troisième et quatrième années que l'étudiant reçoit les connaissances pratiques et prend l'expérience qui vont lui permettre de remplir son rôle d'omnipraticien, de dispenser l'ensemble des soins médicaux, chirurgicaux et restauratifs aux patients atteints de troubles dentaires et de promouvoir la santé dentaire sous toutes ses formes et dans tous ses aspects.

L'Université, sur recommandation de la Faculté, octroie le grade de docteur en chirurgie dentaire (D.D.S.) aux élèves qui ont obtenu au moins 65 pour cent des points sur l'ensemble des matières dans chacune des années du cours.

ENSEIGNEMENT DE SPÉCIALITÉS

Dans l'enseignement des spécialités, la Faculté de chirurgie dentaire de l'Uni-

versité de Montréal s'est confinée plus particulièrement au champ de l'orthodontie. Du fait, elle est pionnière à ce point de vue parmi les facultés dentaires du Canada. Dès 1947, elle offrait un cours post-scolaire conduisant au certificat en orthodontie selon les standards de l'American Board of Orthodontists. Depuis 1960, la Faculté offre en plus du certificat, un programme menant à la maîtrise ès sciences (orthodontie). Grâce à l'habile direction du Dr Paul Geoffrion, le département d'orthodontie n'a cessé d'accroître en importance et en prestige. Ce qui lui attire des candidats de toutes les parties du Canada et des États-Unis. Le département accepte six candidats par année.

ENSEIGNEMENT D'APPOINT

La Faculté se fait un devoir d'offrir à deux ou trois reprises à chaque année des programmes de courte durée visant à rajeunir les connaissances des praticiens généraux sur les multiples aspects de la pratique de la chirurgie dentaire. Les sujets considérés au cours des deux dernières années ont porté sur la prévention des malocclusions, la pathologie et la chirurgie périodontiques, les principes d'occlusion et leurs applications en pro-

thèse, certaines données chirurgicales récentes et leurs applications dans la pratique générale.

LES RECHERCHES

Au cours des sept ou huit dernières années, le personnel de la Faculté, grâce aux octrois du Comité associé de recherches dentaires du Conseil national des recherches, a pu s'engager dans des projets d'envergure. Parmi les sujets où les professeurs de la Faculté se sont particulièrement distingués, on peut citer: l'histopathologie de la carie dentaire, la reminéralisation des lésions initiales de la carie, la pharmacologie des relaxants musculaires, l'électromyographie des muscles de la face, l'anatomie de l'articulation temporo-mandibulaire, les relations entre la croissance somatique et la croissance de la face, l'étude des influences endocriniennes sur les tissus calcifiés, les changements de l'épithélium buccal au cours du vieillissement, l'irritation et la formation de la dentine secondaire et l'étude de la pathologie pulpaire par la méthode des frottis.

Les bourses de l'Association dentaire canadienne ont grandement profité à la Faculté qui a pu s'approprier de cette façon les services d'étudiants pendant l'été. Plusieurs de ces élèves, une fois reçus, se sont attachés au personnel enseignant, d'autres sont en voie de parachever leurs études supérieures pour en devenir membres.

En 1963, les laboratoires de recherches de la division de pathologie ont été complètement réaménagés. Des travaux en cours vont permettre à la Faculté de disposer de trois laboratoires additionnels, d'une salle d'animaux et d'un atelier avant la fin de la présente année académique.

RÉCENTES ACQUISITIONS

Bibliothèque dentaire. — Parmi les acquisitions d'importance majeure qui ont été introduites à la Faculté, on peut signaler l'installation d'une bibliothèque dentaire dans un local à proximité de la Faculté. De fait, il est maintenant pos-

sible aux professeurs et aux élèves de profiter des services d'une bibliothèque bien organisée qui met à la disposition plus de 5,500 volumes et une collection des périodiques les plus représentatifs publiés en langue française et anglaise.

La Faculté de chirurgie dentaire, grâce aux ressources de sa bibliothèque, peut dorénavant orienter l'élève à faire meilleur usage de la documentation présente. Un des moyens de l'encourager, c'est par la rédaction de mémoires ou de revues de questions. En effet, il est requis de la part de chaque élève, dans chacune des années du cours, d'écrire un mémoire sur un sujet qui peut porter aussi bien sur un point d'ordre historique, administratif ou légal relatif à la profession dentaire que sur les points techniques. Les mémoires ont pleine reconnaissance académique, ils mènent à l'obtention de crédits sans lesquels l'élève ne peut être promu. Cette mesure, encore dans ses premiers stages d'application, s'avère un stimulant efficace à la consultation fréquente des ouvrages de la bibliothèque.

Cabinets dentaires. — La nécessité d'entraîner nos jeunes professionnels à profiter des services d'une assistante dentaire au fauteuil a été vivement sentie par les autorités de la Faculté. Dans le but de permettre à ses diplômés d'apprécier la grande valeur du personnel



FIGURE 3 La clinique de prothèse amovible •
The prosthodontic clinic.

auxiliaire, un programme a été institué qui accorde à chaque élève finissant des périodes pendant lesquelles il travaille dans un cabinet dentaire en compagnie d'une assistante. Cinq cabinets ont été aménagés spécialement à cette fin. Les élèves s'y adonnent à des travaux de restauration chez l'enfant comme chez l'adulte.

Rajeunissement de l'outillage. — La plupart des services de la Faculté ont été l'objet d'amélioration matérielle au cours de ces dernières années. Les services de chirurgie, de diagnostic et de radiologie sont en voie de réaménagement selon de nouveaux plans et seront pourvus d'un outillage tout neuf.

Toutes les unités de la grande clinique sont maintenant pourvues de turbines à air. Le laboratoire d'odontotechnique réservé aux élèves de deuxième année a été entièrement remodelé en vue d'utiliser au maximum les avantages que procure l'enseignement par télévision.

Circuit fermé de télévision. — La Faculté s'est procuré l'équipement nécessaire

pour offrir à ses élèves des démonstrations par voie de la télévision en circuit fermé. L'installation d'un système de fiches et l'acquisition d'équipement mobile permettent d'utiliser les cliniques et laboratoires de tous les services comme autant de studios. La projection peut se faire dans les salles de cours comme dans les laboratoires. Bien que le circuit est fréquemment en usage en cours d'année, il s'est montré particulièrement utile dans les périodes d'instruction clinique au début de l'année académique.

ORIENTATION FUTURE

Les années courantes apparaîtront sûrement aux regards de l'observateur de 1975 comme une période décisive dans l'orientation des facultés dentaires. Cette orientation sera sérieusement influencée par les mesures proposées pour résoudre les problèmes de main-d'œuvre professionnelle. Si les recommandations de la Commission royale d'enquête sur les services de santé (la Commission Hall) reçoivent une attention immédiate et dans le sens où elles peuvent rendre les



FIGURE 4 La clinique d'orthodontie. Ce local est réservé à l'enseignement postsecondaire de l'orthodontie. Il peut accommoder 12 étudiants • The orthodontic clinic, exclusively reserved for graduate students, can accommodate 12 students.

meilleurs services, elles produiront et entraîneront des changements importants dans plusieurs des facultés de chirurgie dentaire du Canada. Il se peut que le cas de la Faculté de chirurgie dentaire de l'Université de Montréal soit le siège de répercussions plus profondes, compte tenu des transformations prévues dans toutes les structures de l'enseignement au Québec. Selon les décisions attendues du ministère, il y aura peut être lieu de reconstituer un nouveau curriculum et de tirer plein avantage d'un meilleur

agencement entre le secondaire et l'universitaire. La Commission royale d'enquête sur l'enseignement dans cette province propose des formes d'intégration nouvelles qui fournissent aux écoles d'enseignement professionnel une occasion unique de réévaluer leurs structures et de réviser leurs objectifs. Si l'on juge que les cadres actuels doivent changer de dimensions, il se peut qu'il ne se trouve pas de meilleur temps que maintenant.

C.P. 6128

Le Congrès national de l'A.D.C. aura lieu à Québec au mois de mai. La ville, occupant l'un des plus beaux sites du monde, domine un vaste panorama qu'on ne se lasse pas d'admirer. Ses rues étroites et tortueuses, ses toits en pente et à lucarnes, ses vieilles pierres patinées par le temps, ses monuments, ses édifices anciens à l'architecture typique, tout confère à la Vieille Capitale un charme et un pittoresque que n'oublie jamais ceux qui la parcourent à loisir et l'étudient avec amour.



Faculty of Dental Surgery, Université de Montréal

J.-P. Lussier, D.D.S., Ph.D., Dean, Montreal, P. Quebec

Not long ago the Faculty of Dental Surgery of the Université de Montréal celebrated the sixtieth anniversary of its foundation. For it was on January 15, 1904, that the Provincial Board of Dental Surgery (equivalent to the Board of Governors of the College of Dental Surgeons of the Province of Quebec) decided to create a French language dental school to be affiliated with the Montreal branch of Laval University. The proposed school was to take over responsibility for dental education of French-speaking students from the College of Dental Surgeons of the Province of Quebec. Known as the School of Dental Surgery of Montreal, this institution was officially launched 10 days later when the Provincial Board of Dental Surgery elected a dean, a vice-dean and a secretary of the School.

The School started to operate with very limited means in temporary and inadequate quarters. In 1913, however, it moved to the Laval Dental Hospital, a new building erected in Montreal's Latin Quarter at the corner of St. Hubert and de Montigny Streets. The dental hospital provided clinical facilities, laboratories, classrooms and offices exclusively for teaching dental students.

In 1920 the Montreal branch of Laval University severed its association with the parent university and became the fully

autonomous Université de Montréal. The Dental School was granted a stronger affiliation with the new University under that institution's new charter. This opened the way to improved status for the School on the university campus. Thus on March 31, 1921, the Dental School became the Faculty of Dental Surgery of the Université de Montréal.

In 1942 the Université de Montréal moved from downtown Montreal to the north side of Mount Royal. Seeking a physical integration with the other faculties, the Faculty of Dental Surgery vacated the Laval Dental Hospital (now occupied by offices and laboratories of the Provincial Department of Health) to relocate itself on the first floor of the eastern section in the University's large Mount Royal building. The maximum area assigned to the Faculty was 48,000 square feet, including 17,000 square feet for clinical quarters, 7,000 square feet for teaching laboratories and 3,100 square feet for classrooms. Additional space was provided on the second floor for Faculty administration offices and the dental library.

ADMISSION OF STUDENTS

For more than 40 years the Dental Act of the Province of Quebec has required



FIGURE 1 The dental pathology laboratory where teaching and research material is prepared • Le laboratoire de pathologie dentaire. Ce laboratoire est spécialement utilisé à la préparation du matériel servant à l'enseignement comme aux travaux de recherches en relation avec la pathologie.

that applicants to dentistry must hold a Bachelor of Arts degree, a Bachelor of Sciences degree, or the equivalent. Our Faculty, like other professional schools, is therefore obliged to recruit students almost exclusively from the classical colleges affiliated to French universities of the Province of Quebec. A few French Catholic institutions teaching similar programs in other provinces also contribute some applicants who seek a dental education in a French Canadian environment.

About 1950 the Council on Education of the Canadian² Dental Association recommended more rigorous standards of professional education for applicants seeking admission to Canadian dental schools. Applicants to our Faculty who did not qualify in biology, chemistry or physics were accordingly given the opportunity to enrol in the premedical year attended by candidates for the medical school. This situation lasted only a few years because the Faculty of Arts soon established an alternative program with options, thus permitting dental applicants to comply simultaneously with requirements in the

sciences as well as with those of the bachelor's degree. Even today, students seeking admission without adequate scientific preparation must take the premedical year before they can enter the Faculty of Dentistry. The actual requirements are as follows:

1. The applicant must hold the degree of Bachelor of Arts or Sciences of a Canadian university or equivalent.
2. His knowledge of French must be adequate.
3. His preprofessional education must include at least 10 semester hours of chemistry, including organic chemistry, and six semester hours in each of biology, mathematics and physics. The science courses must include a fair proportion of laboratory hours. The recommended optional subjects are Latin and modern languages, philosophy and sociology.

The Faculty, in 1962, added to its requirements a manual aptitude test (similar to the one used by the Faculty of Dentistry, University of Toronto) and other psychometric tests to evaluate the qualifications and various aptitudes of ap-



FIGURE 2 Teamwork with a chairside assistant. In these dental offices students learn how to use a chairside assistant effectively • L'enseignement clinique avec l'aide d'auxiliaires. Des cabinets dentaires sont aménagés pour permettre aux élèves de travailler en équipe au fauteuil avec les assistantes dentaires.

plicants. The admissions committee does not consider applications filed after June 1.

STUDENT BODY

In the quarters allocated to the Faculty there was originally provision to accommodate an entering class of 60 students. On account of the usual academic mortality rate and the limitation of the physical facilities, chairs and units were provided for an optimum number of 52 students in each of the two last years. However, the growing needs of the profession and the availability of better qualified students have induced the Faculty to proceed with an expanded program. Last September we admitted 70 students in the first dental year. This is the initial step of a multi-phase expansion program. In 1955 the number of undergraduate students was 132; in 1964 it reached 218 and is expected to exceed 300 before 1970.

The Faculty occasionally contributes to the training of dentists in other Canadian provinces and in the New England states. But its primary task is to fill the ranks of the profession in the Province of Quebec. More than 95 per cent of the students are residents of this province. The Montreal metropolitan area, of course, supplies the largest proportion of students, although 20 to 30 per cent come from other urban centres of the province. Most of the students are from middle class families. In

1964 the father's occupation was found to be as follows: 64 per cent civil service or salaried employee; 17 per cent trades; and 19 per cent professions.

Every year enquiries are received from French speaking dentists who wish to immigrate to Canada and become eligible to practise in the Province of Quebec. Such candidates may be accepted in accordance with their qualifications and subject to the availability of places in classes where they can be introduced with advanced standing. The number of *ad eundem* students seldom exceeds five per year.

The present teaching staff includes 11 professors, three associate professors and 10 assistant professors. We have 13 full-time and 11 half-time professional staff members. These career teachers are supported by a group of 20 dental practitioners who serve in the various clinical divisions. Six have the rank of clinician; fourteen are clinical assistants. Seven staff members concentrate on the teaching of fundamental disciplines such as anatomy, histology, biochemistry, pharmacology and pathology. Although our Faculty does not intend to duplicate existing basic science departments or divisions elsewhere in the University, we are fortunate in having teachers with a solid background in fundamental disciplines which must constantly be integrated into an applied clinical and research program.

THE UNDERGRADUATE CURRICULUM

Our curriculum parallels that of other English language faculties of the North American continent. It is a four year program with a wide spectrum of subjects that range from biochemistry to oncology, from dental anatomy to oral rehabilitation. The biological subjects are concentrated in the first two years. Fifty-five per cent of the first year is apportioned to anatomy, physiology, biochemistry and histology. Forty-two per cent in the second year is devoted to pharmacology, bacteriology and pathology. The basic sciences thus occupy 25 per cent of the total curriculum. Preclinical and

clinical training is distributed over the entire four years and includes anaesthesiology, surgery, diagnosis, dental materials, restorative dentistry, endodontics, orthodontics, materia medica, oral pathology, paedodontics, periodontics, prosthodontics, public health, preventive dentistry and radiology. The academic year is divided into two periods of 15 weeks, exclusive of examinations which take place at the end of each term.

A program of clinical indoctrination, introduced some time ago, extends for about three weeks from August 20 to the beginning of the third dental year each September. During this period students are uniformly oriented in the various clinical departments and trained to adhere to standardized clinical procedures.

During the third and fourth years the student acquires the knowledge and skills which will permit him to assume his responsibilities as a general practitioner, provide a wide spectrum of medical, surgical and restorative care to patients afflicted by dental diseases, and promote

dental health on the broadest possible scale.

The University, at the recommendation of the Faculty, grants the degree of Doctor of Dental Surgery to students who average 65 per cent in the combined subjects in each of the four undergraduate years.

SPECIALTY TRAINING

The Faculty limits the teaching of the dental specialties to orthodontics. The Université de Montréal actually pioneered in this field in Canada. As early as 1947 the Faculty announced a post-graduate course leading to certification in orthodontics in accordance with the standards of the American Board of Orthodontists. Since 1960 the Faculty has supplemented the certificate course with a program leading to the Master of Science degree in orthodontics. Under the capable direction of Paul Geoffrion our Department of Orthodontics has gained international recognition. Although can-



FIGURE 3 A laboratory demonstration by means of closed circuit television • Une démonstration au laboratoire d'odontotechnique au moyen de la télévision en circuit fermé.

didates apply for admission from all parts of Canada and United States, the department accepts only six graduate students per year.

REFRESHER COURSE

Two or three times a year the Faculty offers short courses to further the knowledge of practising dentists in some facet of dentistry. Among the most recent topics have been interception of malocclusion, pathological and surgical aspects of periodontics, philosophy of occlusion and its application to prosthodontics, and recent advances in oral surgery and its application in general practice.

RESEARCH

In the course of the last seven or eight years the Faculty has initiated several long term research projects. In this endeavour we were assisted financially by the National Research Council of Canada. The resulting studies cover such topics as histopathology of dental caries, remineralization of incipient carious lesions, pharmacology of muscular relaxants, electromyography of facial muscles, anatomy of the temporomandibular joint, relationship between somatic and facial growth, influence of endocrine glands on calcified tissues, changes of the oral epithelium during aging, irritation and the formation of secondary dentine, and pathology of the pulp studied with the aid of smears.

Canadian Dental Association studentships have been greatly appreciated because they enable students to assist in our research laboratories during the summer and stimulate the recruitment of teachers. This experience has persuaded some students to pursue graduate programs after graduation in order to join the staff at a later date.

In 1963, the research laboratories of the Division of Pathology were completely renovated. Three additional laboratories, an animal room and a workshop will also be equipped during the present academic year.

RECENT ADDITIONS

Dental Library.—Among the major new assets of the Faculty is the dental library. There, teachers and students can take advantage of the 5,500 books and the extensive collection of French and English periodicals. By requiring a mandatory annual written essay from every student, we teach students to use the dental library effectively. Students may select any topic that relates to the history, administration, forensic or technical aspects of dentistry. Though still in its early development, the essay requirement has proved effective in stimulating greater use of the library.

Dental Offices.—The Faculty recognizes an obligation to train young dentists to make more effective use of chairside assistants. Accordingly, a special program offers to fourth year students an opportunity to work in a dental office with a dental assistant, where they learn to appreciate the value of auxiliary personnel. Five dental offices have been especially equipped for this purpose. Here, students are allowed to perform restorative services for children and adults.

New Equipment.—Several of the Faculty divisions have been substantially improved in the last few years. The Divisions of Oral Surgery, Diagnosis and Radiology are still in the process of renovating their equipment and facilities. All dental units in the main clinic are now equipped with air turbines. The preclinical laboratory for second year students has been redesigned to permit better use of television as a teaching aid.

Closed Circuit Television.—The Faculty has acquired the necessary television equipment for clinical and laboratory instruction. All major areas are provided with outlets so that any clinic and laboratory may eventually become a studio. The mobile equipment can be easily transferred from one area to another. Reception is also possible in laboratories as well as in classrooms. The use of television for teaching purposes is becoming more popular with teachers and students.

Closed circuit television is particularly advantageous during the period of intensive clinical indoctrination at the beginning of the third dental year.

TRENDS

To an observer in the next decade, our present situation will likely appear as a turning point in the progress of dental education. The need to find and adopt solutions to dental manpower problems has become increasingly acute. Some of the recommendations of the Royal Commission on Health Services are intended to help Canadian dental schools do a better job in this direction. In the case of

our Faculty this may become an extremely demanding task on account of changes anticipated at all levels of the educational system in the Province of Quebec. With so many problems arising simultaneously, we must earnestly examine the extent to which a new curriculum benefiting from closer integration of secondary school education and university education could resolve these difficulties concurrently. The Royal Commission on Education in the Province of Quebec has challenged the professions to re-evaluate their present educational structure. If our educational framework requires adjustment, there could be no better time than the present.

P.O. Box 6128

Quebec, site of the C.D.A. National Convention in May, is the metropolitan centre of a district extending from Trois-Rivières to Gaspesia and the north shore of the St. Lawrence. Transportation by water, railway, highway and aeroplane enhances present-day demands and expands to meet the needs of the population. Quebec Bridge, which spans the mighty St. Lawrence, is one of the city's landmarks.



Faculty of Dentistry, University of Toronto

News reports repeatedly remind us that elaborate preparations are being made for the celebration of Canada's centenary in 1967. The urge to unite, which took men to the Charlottetown and Quebec Conferences in 1864 and the motives underlying Confederation in 1867, were undoubtedly the same as those which led to the organization of dentists in the Province of Ontario at about the same time.

HISTORICAL REVIEW

Dental leaders prior to 1867 foresaw that dentistry could never achieve the stature of a profession without organization and uniform qualifying standards. Led by W. B. Day, M.D. of Kingston, the Ontario Dental Association (Ontario Dental Society) held its first regular meeting in mid-1867 at Cobourg and prepared the way for incorporation of the profession. The 'Act respecting Dentistry' was passed at the first sitting of the first legislature of the Province of Ontario, and received the Lieutenant Governor's assent on March 4, 1868.

The Royal College of Dental Surgeons of Ontario (R.C.D.S.) came into being with the passing of the Act. Its Board of Directors was made responsible for the qualifications and education of dentists. The latter charge, in the minds of some, required early action; thus a dental school was begun late in the fall of 1869, though a few directors were reluctant to see the Board become financially involved. The venture proved to be premature because

early in 1870, after only one session, the school closed due to financial difficulties.

During the next five years the Board of Directors of the R.C.D.S. negotiated in vain to establish a university affiliation for a dental school. Finally, in July 1875, the Board decided to start a school and appointed two lecturers, J. B. Willmott, D.D.S., M.D.S. and L. Teskey, L.D.S., M.D. Eleven students registered early in November 1875.

Affiliation with the University of Toronto was realized in May 1888, and the first class was presented for the degree of Doctor of Dental Surgery a year later. This degree, probably the first doctorate of dental surgery given in the British Empire, was undoubtedly influenced by the American pattern. Full membership as a faculty in the University did not materialize until 1925, fifty years after the school was established.

Prior to 1868 the practice of dentistry required only a few months of private tutelage. Subsequently the requirements for matriculation into the study of dentistry, the length of the course, and the requirements to be fulfilled in dental school were gradually increased. The accompanying period of indentureship, which reached a maximum of 3½ years by 1892, was abolished by 1912.

The admission of undergraduate students, the curriculum, and all matters relating to academic standards became the direct responsibility of the Senate of the University of Toronto when the school became an autonomous faculty in 1925. At the same time the R.C.D.S. retained



FIGURE 1 Students of the class of 1888-89 outside the School of Dentistry of the Royal College of Dental Surgeons of Ontario on Louisa Street, Toronto.

some control over these details insofar as they applied to the granting of the licentiate diploma.

The Faculty maintains close and harmonious relations with the R.C.D.S. Thus, final year examinations and individual student grades recorded by the Faculty are accepted by the R.C.D.S. for purposes of granting the licentiate diploma. The Dean reports each year to the R.C.D.S. Board, presenting highlights of the activities of the Faculty and projections for the future. Each biennium the Faculty Council elects an official delegate to the Board and, in turn, the Board elects two of its directors to active membership on the Faculty Council. The chairman of the Faculty Library and Museum is appointed by the Board as librarian of the Harry R. Abbott Memorial Library. Located at the Faculty, this library nevertheless falls under the Board's jurisdiction.

INFLUENCES ON DENTAL EDUCATION

The original school was initiated during an era significant for technological developments in dentistry. Nevertheless, the 1875 curriculum included anatomy of the head and neck; physiology and dental histology; chemistry and materia medica; as well as traditional subjects like dental surgery, operative dentistry and mechanical dentistry. Introduction of the x-ray machine at the turn of the century facilitated dental diagnosis. Focal infection commanded increased attention when

William Hunter and others aroused physicians and dentists to the contribution made by dental disease to debilitating illness. These and subsequent events during the first quarter of the twentieth century were climaxed by the 1926 Gies Report on dental education in the United States and Canada. Dr. Gies envisaged for dentistry an expanding role as a health service. This, he claimed, could only be fulfilled if dentistry's educational pattern were based more solidly on the biological sciences, and if prevention and research were prominent features of dentistry. It is noteworthy that preventive dentistry received early recognition in Toronto, a separate department, perhaps the first in North America, having been established in 1916. Wallace Seccombe, later to become dean, was the first professor of this department. Similarly, the year after the Gies Report was published H. K. Box was appointed research professor of periodontology at Toronto.

RESEARCH AT TORONTO

Prior to Dr. Box's appointment research received little prominence and virtually no financial support in the School. In 1927 Dean Wallace Seccombe and Dr. Box persuaded the provincial government to set up annually five research fellowships of \$1,000 each for a period of five years. These fellowships provided training for potential research workers, but were ter-



FIGURE 2 The former building of the Royal College of Dental Surgeons of Ontario on College Street, Toronto, a site now occupied by the Toronto General Hospital. An addition of approximately the same size was added in 1902.

minated in 1932. Some present day senior staff members of the Faculty gratefully remember the stimulation these fellowships provided.

Immediately after the Second World War emphasis was again directed to training career research personnel. A fellowship program, implemented in 1946-47, encouraged young graduates with research potential to undertake study in the biological sciences and in research methodology. Fellowships were made available by the W. K. Kellogg Foundation, the Canadian Dental Association, and the National Research Council of Canada. The 1947-1952 program produced a group of imaginative, virile men dedicated to the biological sciences and research focussed on the prevention of dental disease, as envisaged by W. J. Gies in 1926. Those trained during this period include R. M. Grainger, H. A. Hunter, J. B. Macdonald, G. Nikiforuk and K. J. Paynter. Others were to follow, but trained personnel were frustrated by lack of space and financial support. The University came to the rescue in a limited way in

1951 in respect to laboratories, but even these facilities were soon overcrowded.

In order to integrate and co-ordinate research activities, a Division of Dental Research was established within the Faculty in 1952. A vital force for the promotion of research was thereby created. Financial support was the next essential. Leaders in the business community urged that dentists be given an opportunity to indicate their support for a research program. The 1953 spring campaign among the profession in Ontario produced over 1,000 dentists who pledged contributions for dental research totalling in excess of \$130,000 over a five-year period. This magnificent response strengthened the hand of C. H. M. Williams who acted as Faculty liaison officer with the financial world. Dr. Williams, in turn, enlisted the support of Mr. George M. Black, Jr. and Mr. Wallace McCutcheon, and this indefatigable trio raised a further \$120,000 from the financial community.

By 1955 dental research in the Faculty was really on the move, and the accommodation at 230 College Street had become hopelessly inadequate. Obviously a new building for dental education and research was now an urgent necessity.

FACILITIES

We have seen how the first Board of Directors of the R.C.D.S. responded quickly to "their responsibility of providing educational facilities for training dentists. . . ." In rapid succession after opening the School of Dentistry (1875) in two rented rooms at 46 Church Street, Toronto, they provided increased space in 1878 in a building at the south-west corner of Victoria and Richmond Streets, and again in still larger rented quarters at 13 Louisa Street in 1886. In 1895 the R.C.D.S. decided that the School should have a building of its own and erected a four-storeyed building at 93 College Street, the present site of the Toronto General Hospital. By 1909 a further move was imminent, and the following year the building at 230 College Street provided still larger facilities for the school. The

home of dental education in Toronto for 50 years, this building accommodated crowded classes of ex-service veterans following two world wars, and accelerated classes from 1939-1945.

During these years of great pressure it became evident that graduating classes of approximately 60 members would not meet the future need for dental services. Early in 1944 the R.C.D.S. Board therefore invited a committee of six Faculty members (P. G. Anderson, G. V. Fisk, R. J. Godfrey, J. H. Johnson, C. H. M. Williams and R. G. Ellis) to study dental education and its future needs. The committee's report, submitted on November 23, 1944, recommended the erection of "a new building in close proximity to the teaching hospitals . . . to meet the demands of an enlarged dental educational program." It took almost 15 years for that new building at 124 Edward Street to become a reality.

Seemingly little progress was made until 1950 when the Ontario government made a survey of future health needs in the province. The subsequent *Report of the Ontario Health Survey Committee*, published in 1952, recommended "that . . . dental training facilities in this province be increased to accommodate a maximum of 120 new graduates in dentistry each year instead of the fewer than 60 as was the case from 1927-1948."

Two more years were to pass. Then, on March 11, 1954, the government presented a budget with "a special capital grant to the University of Toronto for expansion of its college of dentistry." Further government appropriations of \$1 million each year for five years resulted in the new facilities which were opened in 1959, accommodating 124 students in each class and providing greatly expanded space for the Division of Dental Research and Postgraduate Education. At this point we record our gratitude to the R.C.D.S., the Ontario Dental Association, the Dental Alumni Association, the Faculty staff and members of the profession whose combined efforts brought the building project to successful fruition. But a building is useless without staff and a comprehensive well balanced curriculum.



FIGURE 3 Building of the Royal College of Dental Surgeons of Ontario and, subsequently, the Faculty of Dentistry, University of Toronto, at 230 College Street, Toronto. The school was at this location for 50 years, from 1909 until 1959.

CURRICULUM

During the first 50 years the curriculum of the Toronto School was closely scrutinized by representatives of the practising profession. This resulted in emphasis on the preparation of graduates who would meet their responsibilities in supplying technical services. Subsequent recognition of the School as a full partner in the university community encouraged greater attention to the biological sciences, to principles of prevention, and to research.

All Canadian dental schools have benefited from periodic surveys conducted by the Council on Education of the Canadian Dental Association. The Toronto School was surveyed on four occasions between 1951 and 1961. Despite commendation following the 1961 inspection, there has been no complacency about the program, and changes made since the last survey bear witness to this observation. The predental year, once under the jurisdiction of the Dental Faculty, but, in fact, a year of arts and science study, has been discontinued. Instead, candidates seeking admission to the Faculty may take the equivalent subjects of the former pre-

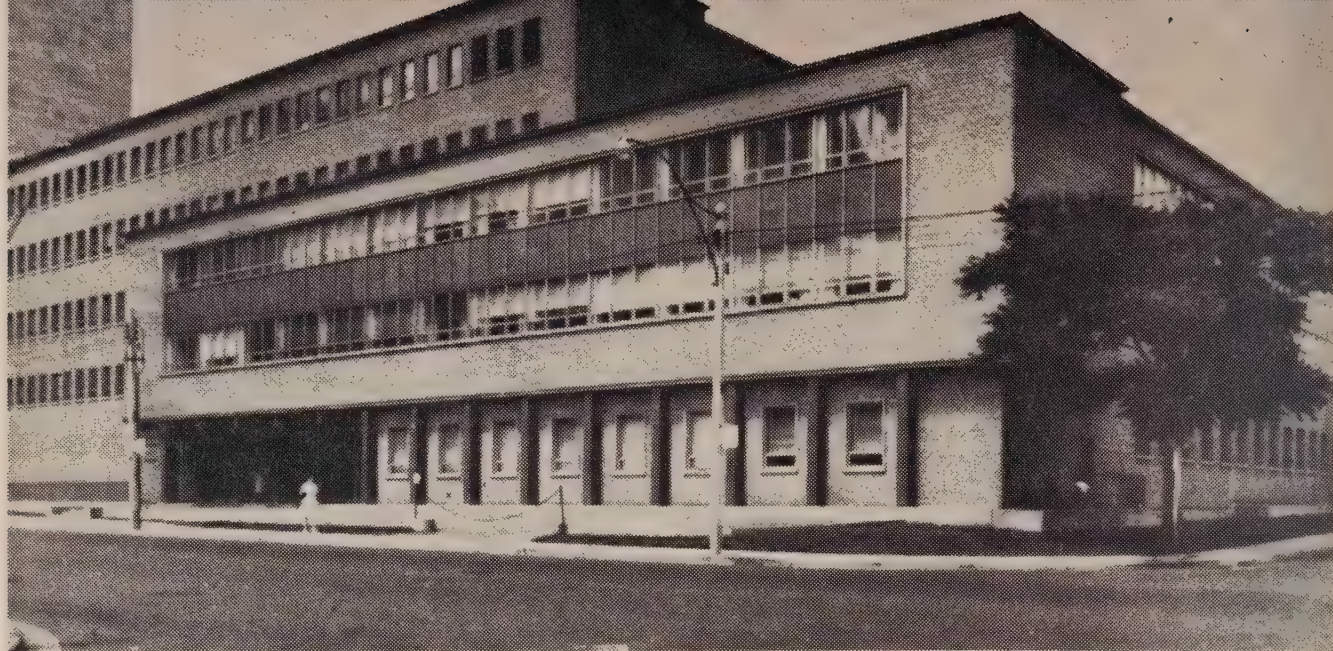


FIGURE 4 The present building of the Faculty of Dentistry, University of Toronto, at 124 Edward Street was opened on November 23, 1959.

dental year in a recognized university of their choice. The teaching of preclinical operative techniques has ceased to be a laboratory bench exercise and, instead, the second year student is introduced to modern high speed techniques, using extracted teeth assembled in phantom heads, mounted on the regular clinic equipment. In quick succession, the more advanced second year students complete a phantom head project and then apply their skills to a patient. This honours program permits flexibility and encouragement for the gifted student. The same principle has been introduced in the fourth year where a student can be elected to 'senior privileges' for superior standing. He thereby earns the privilege to: (1) concentrate his clinical activities in a specific area, and undertake more difficult treatment; (2) act as an undergraduate demonstrator in the preclinical courses of the earlier years; (3) participate on a project in the Division of Dental Research; or (4) concentrate attendance in the dental department of a teaching hospital. This 'merit system' is important to the motivation of students, and provides a reliable means of recruiting potential teachers and research workers.

We have made other adjustments in order to stimulate the student's interest in the application of biological sciences to clinical practice. Brief courses on 'orientation to clinical practice' have been introduced in the first and second years. The courses in preventive dentistry and oral diagnosis give increasing emphasis

to the importance of the biological sciences. This whole area lends itself to further development and depends on teachers capable of integrating the sciences and clinical practice, rather than on courses.

A further application of the 'merit system' finds expression in a reduction of time spent by students who prove their ability in the purely technological aspects of dentistry. Fourth year students in this category are given an increasing amount of assistance through Faculty administered and commercial laboratory services. This provides more time for clinical practice, and for hospital, public health, and research experience. Another recently introduced program gives fourth year students some experience in working with a trained chairside assistant. This project will be expanded under a W. K. Kellogg Foundation grant. Its initial phase has provided encouraging support for the team concept in the dental practice.

STAFF

Dental education in North America, from its very beginning in the middle of the nineteenth century, broke away from medical education and became autonomous. At the outset, however, staff with medical training were active in teaching dental students. We have already observed that J. Branston Willmott, D.D.S.,

M.D.S. and Luke Teskey, L.D.S., M.D. comprised the staff of the Dental School during its first year in 1875-76. They shared the teaching of all subjects to the 11 students registered in the initial class and, no doubt, were able to integrate instruction in the biological sciences with the teaching of clinical dentistry. As class sizes increased, more staff was required and instructors were recruited from among the successful practitioners of the day, a pattern which has characterized the preparation and selection of teachers for dental schools ever since. For a long time the concept of requiring some form of certification for teaching in a professional school was never seriously contemplated. Only since the dental school joined the university has there been any attempt to encourage postgraduate and graduate study (including pedagogical subjects) on the part of career teachers and research workers. Lack of financial support during the training period and limited university salaries have been deterrent factors.

For many years a dental school staff comprised a group of dedicated, local practitioners recognized for their outstanding clinical ability and high ethical standards. As teachers, their practice experience is invaluable to the undergraduate student, but the danger is that neither the teacher nor the student will venture very far beyond clinical techniques. The tendency toward inbreeding inherent in this system and the imbalance favouring technology gave the university community an unfavourable image of dental education.

These matters have noticeably improved as a result of graduate study programs completed by staff members. The research fellowships of the 1927-32 period, and the establishment of the Bachelor and Master of Science in Dentistry degrees in 1927, served as the original effort of this Faculty to encourage teacher training. In 1947 a further program was launched, with emphasis on training elsewhere than at Toronto. The five year period 1947-52 produced an outstanding group of men who today occupy senior posts in the Faculty. The majority have been recognized elsewhere in the University through cross-appointments in the

Faculty of Medicine, the School of Hygiene, and in the Departments of anatomy, biochemistry, microbiology, pathology and epidemiology and biometrics. Two of the original group were J. B. Macdonald, now president of the University of British Columbia, and G. Nikiforuk, who directs the Department of Paediatric Dentistry at the University of California (Los Angeles).

This program of teacher training continues under its own momentum, with the result that three recent Toronto graduates joined the staff at the beginning of the current session. Each of these men completed several years of study at institutions elsewhere. In addition to this source of future staff, we have been fortunate in attracting several men with high qualifications to senior appointments. The long range effect of this policy must surely be to improve the quality and scope of undergraduate dental education and research, and to provide a wider range and more comprehensive refresher courses for the general practitioner, as well as postgraduate courses for specialty certification and programs for Graduate School degrees. The image of dental education in the university community is enhanced by success in these areas, and by staff activity in other divisions of the University. We are mindful that, by virtue of the number of students registered in dentistry, the size of the staff and the annual budget of the Faculty of Dentistry, we are the fourth largest of 20 teaching divisions in the University and that we have responsibilities to the University as a whole.

POSTGRADUATE AND GRADUATE EDUCATION

These activities include continuing education for the general practitioner through short courses, courses of longer duration designed to prepare graduates for specialty practice, and individual programs of fulfilment of the requirements of degrees offered by the School of Graduate Studies.

Short courses for small groups of dentists have been provided by the Faculty for many years. The interest changes

from time to time and therefore the pattern is flexible. In co-operation with the R.C.D.S. the Faculty has also provided lecturers and clinicians for local dental society meetings. This extramural lecture service was introduced in 1920-21 by the R.C.D.S. which pays the major share of the cost.

Courses of longer duration were initiated in 1927 when the Bachelor and Master of Science degrees were established. Designed to encourage study of the basic sciences related to dentistry and to promote research in these fields, these courses have been associated with teacher and research training since their inception. With the rise of specialty fields in dentistry, other courses were introduced 20 years ago. Subsequently the University established Diplomas in Dental Public Health (1944), Oral Surgery and Anaesthesia, Orthodontics and Periodontics (1945) and Paedodontics (1949). The requirements for these diplomas include courses in the sciences related to the specific specialty and clinical practice.

When the plans were drawn up for the building presently occupied by the Faculty, the Postgraduate and Graduate Division was designed to accommodate approximately 50 students in the diploma and degree courses. In the current session 47 students are registered in these categories. The expanding activities in this Division will be the subject for study in the near future.

AUXILIARY PERSONNEL

The productivity of the dentist, in terms of service rendered for the public, can be significantly increased by the integration of auxiliaries into the dental health team. Dental schools have an obligation in the training of auxiliaries and in teaching dental students to utilize auxiliary personnel in practice.

In 1919 the R.C.D.S. instituted a certificate course in dental nursing, based on Grade 12 admission, which the University continued when the Dental School became a Faculty in 1925. In 1936 the University established the Diploma in Dental Nursing which continued until the

course was withdrawn in 1960. With rapidly expanding enrolment in the University, such courses of a vocational nature were gradually discouraged. The University policy of requiring Grade 13 for admission to all courses drastically affected applications to dental nursing and was the basic reason for its discontinuance. More recently Dr. Marjorie Jackson of this Faculty has assisted secondary school authorities in suburban Scarborough and Etobicoke to establish two year courses for dental assistants. Several such courses could probably meet the profession's requirements for young women with good basic dental assistant's training.

In Canada this Faculty has also pioneered in the education of dental hygienists. A two year diploma course, established in 1951-52, attracted six women students in the first year. The numbers have increased gradually. In the fall of 1962 a full capacity first year class of 50 students was admitted.

The Faculty does not train dental laboratory technicians. This is in deference to the University's attitude toward vocational training. We employ technicians, however, and students receive instruction in prescription writing for technical services as required by law in Ontario. But this is only one facet of our endeavour to instruct students in the utilization of auxiliary personnel. Fourth year dental students and dental hygiene students are also routinely instructed in procedures for integrating their services. The training of dental students in maximum utilization of auxiliary personnel advanced one step further in November 1963 when a number of experienced chairside assistants were assigned to fourth year students on a rotational basis. Although earlier attempts to team up student dental nurses with dental students met with scant success, this experiment has so far justified the conclusion that training undergraduate dental students in the utilization of experienced chairside assistants is both desirable and feasible. Associated with this team approach to clinical training is the development of new concepts in office layout and design of equipment. Results of this experimen-

tal program will be reported in due course.

THE FUTURE

In 1947 the author projected the following requirements for progress in dental education at the Toronto School:

1. A long range program of teacher and research personnel development.
2. Revision of the undergraduate curriculum for better correlation of the biological sciences with clinical practice, and reduction of time spent on purely technological aspects of dentistry.
3. Expansion of postgraduate and graduate education, and development of a comprehensive program of continuing education for the general practitioner.
4. Activation of dental research, particularly in the sciences underlying prevention of dental disease.
5. Provision of new physical facilities to house the expanded program envisaged above.
6. Development of a strong program in the teaching hospitals which would benefit the public and both dental and medical students.

Some aspects of this list merit further consideration at this time.

Despite a 1947 agreement between the Toronto General Hospital and the University of Toronto, the Department of Dentistry in the hospital did not become a vital teaching unit until quite recently. The ultimate development of this project at the Toronto General Hospital and its future extension to dental departments in other teaching hospitals will strengthen the dental student's instruction in oral medicine and will benefit the medical student's understanding of dental problems.

The training of staff for enlarged and new dental schools in Canada, as envisaged in the Report of the Royal Commission on Health Services, poses an exciting challenge for the Division of Postgraduate and Graduate Studies. Drafting an imaginative blueprint to meet this responsibility and to expand all existing activi-

ties, beyond the undergraduate courses, must receive high priority.

Currently, a good deal of optimism exists concerning the ultimate prevention of dental caries. More generous support for basic research in the broad field of prevention is anticipated in the future. The Division of Dental Research in this Faculty has already established a proud reputation and will expand to broaden its influence on research in Canada.

The dental profession, like all healing professions, must be alert to changing attitudes toward health services in our society. Inevitably these changes will become our deep concern and educators must make provision for adequate instruction in all areas associated with our responsibility to society. Departments responsible for such matters, and bearing strange new names, are being created in many dental schools. We cannot ignore this trend, but careful study must precede any action. Such study might well begin with a review of the criteria used in selecting dental students and with their preliminary university education.

Concern over the selection of students to be admitted to dentistry is not of recent origin. Studies have been in progress for many years to determine the most reliable predictors of success not only in academic and manual facets of dental education but also for professional aptitude. Combine positive methods of selection with background preparation, at the university level, in sociology, philosophy, psychology and the sciences and the need for a new department may not appear so cogent. This approach will receive high priority in future studies concerning dental education in this Faculty.

These are but a few of the fertile fields for research in dental education in the future. The Faculty of Dentistry at the University of Toronto inherited a rich past and will strive to ensure, in the words of the nineteenth century German philosopher Friedrich Nietzsche, that its "tradition grows ever more venerable."

124 Edward Street

Student recruitment should emphasize quality

The number of Canadians applying for admission to dental schools in Canada in 1964 increased by 26 per cent over the number applying in 1963, according to a recent report of the Bureau of Economic Research of the Canadian Dental Association.¹

While this increase is modest, it does represent a trend which has been in existence over the last few years. Should this trend continue it would seem to ensure that the schools will have an adequate supply of applicants from which to draw future students.

This assurance, however, may be a false one in the light of other information concerning the quality of these applicants. The fact is, the number of *qualified* applicants has not increased commensurately with the total number of applicants. Thus, for 1964-65 fully one-half of all applications were considered by the schools to which they were submitted to be unacceptable on academic grounds. The persistent high attrition rate among dental students, especially during the first year of the professional program, is further evidence that our recruiting efforts have not been as successful as would seem to be indicated by the improved trend in the number of applications.

A dental educator-administrator recently stated: "The facts pertaining to dental student recruitment are both disconcerting and alarming to dental school administrators There are not enough of the academically superior and highly motivated student to ensure the highest possible quality of professional personnel in abundance for the future."² Findings of several recent studies which show that, in general, the academically superior or above-average students do not seek a career in dentistry support this statement. It is time for us to give more emphasis to quality in our recruitment efforts.

Dentistry is a mentally challenging occupation. The dental curriculum is an intellectually demanding one. And yet the public — parents and students — think of dentistry largely in terms of its technical and mechanical attributes. The profession, in turn, has for too long regarded the possession of 'a good pair of hands' to be the major, if not the only, essential element for success in dentistry. The unfortunate results are that the intellectually able student does not regard dentistry as providing a satisfying and stimulating career; and persons with 'a good pair of hands' but no professional education are given the legal right to treat the public directly, apart from, and independent of, the dental profession.

So long as the dentist's competence is viewed as being only that of a highly skilled technician, so long will the present situation prevail. This indictment may seem too harsh to many, but I am convinced there is a large element of truth in it. If we are to improve our position, we need to face the problem squarely.

If our profession is to keep pace with the ever increasing scope of human knowledge and scientific advances in its service to the public, we must recruit more of the intellectually superior young men and women into our ranks. We cannot afford to do less. The responsibility is yours — and mine.

S.W.L.

1. Canadian Dental Association, Bureau of Economic Research, Applicants and applications, 1964. Reported to the Council on Education, March 18, 1965. Mimeo.
2. Lyons, Harry. A message from your president. A.C.D. Reporter, February 1965.

As Others See It

Those angry GPs

What is the real grievance of Britain's 23,000 family doctors, or GPs, who have threatened to wreck the National Health Service by resigning 'en masse,' as each of them individually has the legal right to do.

The doctors say they are overcrowded and underpaid; but there is some reason to question this generalization. The average GP earns around \$13,000 a year which is substantial pay by British or, indeed, any standard.

According to a new book on N.H.S. by Paul Merritt, the real reason for anger among the GPs is not poverty, it is a feeling that they are being side-tracked, left behind, and, in a sense, demoted. Their patients come to them for headache pills but demand specialist's hospital care for 'anything serious.'

It is, of course, a part of medical history in the 20th century that the old-fashioned GP, with his knowledge of the family, his bed-side manner and kind heart, has been gradually 'demoted' by the certainly more scientific, possibly more cold-blooded, M.D. who works with all the technical facilities of a hospital at his disposal.

This change would have occurred in Britain, as it has happened elsewhere, even if N.H.S. had never been invented.

The question worth asking is whether 'Socialized medicine' has exaggerated this trend to the advantage of all concerned. When medical and surgical service of every sort is offered 'free to all' do people tend to undervalue the journeyman's doctor?

This is a question for Canadians to ponder as they think about plans for medicare. The GP is still, and will always be, an exceedingly valuable man; and any system that discourages him or relegates him to inferior status is a defective system. Canadian Medicare, whatever form it takes, must avoid that mistake.

les actualités dentaires

Nouvelles du Congrès national

Formule d'inscription

Le grand nombre d'inscriptions déjà reçues indique l'intérêt suscité par le prochain Congrès national de l'A.D.C. à Québec. Les délégués devront, le plus tôt possible remplir et expédier la formule d'inscription ci-dessous.

Réunion du Conseil des Gouverneurs, du 25 au 29 mai

La réunion annuelle du Conseil des Gouverneurs aura lieu au Château Frontenac, à Québec, du 25 au 29 mai. La direction demande aux membres de l'A.D.C. d'assis-

ter aux assemblées et de prendre part aux délibérations.

Colloques

Lundi après-midi, le 31 mai. Fixation des honoraires dentaires d'après un système de valeur relative. Interlocuteurs: R. A. Clappison, R. C. Freeman et W. W. Pressy, de Toronto.

Mardi après-midi, le 1er juin. Colloque de L'A.D.C.: Possibilité d'établir un plan national d'assurance santé dentaire au Canada, d'après les recommandations de la Commission Hall. Interlocuteurs: J. M. Chamard, D.D.S., de Montréal; Jean Marchand, président de la Confédération des Syndicats nationaux, de Québec, P.Qué.

Mercredi après-midi, le 2 juin. Forum. Présentation spéciale par 12 cliniciens.

Assemblées des groupes affiliés

Parmi les groupes affiliés ou les organismes associés qui se réuniront à Québec,

Remplir cette formule et la poster avec les frais d'inscription à: Congrès de l'Association dentaire canadienne, 1160 avenue des Erables, Québec 6, P. Qué. Faire les chèques à l'ordre de 'Congrès 1965 de l'A.D.C.' Frais d'inscription: \$40 (seul), \$10 (épouse). Le comité du congrès vous invite instamment à vous inscrire à l'avance. Vous recevrez une confirmation de logement réservé directement de l'hôtel ou du motel.

National Convention
Canadian Dental Association
Dental Association of the
Province of Quebec
May 30 — June 2, 1965

Québec

Congrès national
Association dentaire canadienne
Association dentaire de
la province de Québec
du 30 mai au 2 juin, 1965

Name/Nom _____

Address/adresse _____

City/ville _____ Province _____

Wife's Christian Name/prénom de l'épouse _____

Accommodation requested Hotel ☐ single/simple ☐ double ☐

Logement désiré Motel ☐ twin/jumeaux ☐ suite ☐

avant ou pendant le Congrès national, mentionnons: la Société canadienne des Chirurgiens buccaux, l'Académie canadienne de Périodontologie, l'Académie canadienne des Prothésistes, l'Académie des Sciences dentaires, l'Association canadienne des Hygiénistes dentaires et l'Association canadienne des Assistantes dentaires.

Les prosthodontistes se réuniront à Québec

L'Académie canadienne de Prosthodontie tiendra son assemblée annuelle au Château Frontenac à Québec le 29 mai. Pour plus amples renseignements, s'adresser à W. G. Woods, 123 rue Edward, Toronto 2, Ontario.

CONGRES DE L'ASSOCIATION DENTAIRE CANADIENNE CANADIAN DENTAL ASSOCIATION CONVENTION

Cher confrère,

En collaboration
in Cooperation

avec
with

La Société dentaire
de Québec

The Quebec Dental
Society

★

L'Association dentaire
de la province de Québec

The Dental Association
of the Province of Québec

★

Le Collège des Chirurgiens
dentistes de la province
de Québec

The College of Dental
Surgeons of the Province
of Québec

La Société dentaire de Québec est heureuse de vous accueillir chez-elle à l'occasion du Congrès national de l'Association dentaire canadienne en mai prochain.

La tâche d'un comité d'organisation est complexe. Elle consiste à:

- présenter un programme scientifique susceptible d'établir des normes synchronisées aux hautes aspirations des membres de la profession;
- organiser des rencontres sociales qui puissent devenir enrichissantes tant au point de vue humain que professionnel;
- solliciter la présence des groupes qualifiés, (hygiénistes et assistantes dentaires, représentants dentaires et pharmaceutiques) dont la coopération est nécessaire à la poursuite de nos buts.

Voilà ce que les membres du comité, par leurs efforts ont tenté de préparer à votre intention. Nous vous invitons à venir vous rendre compte vous-même du succès de leur tentative.

Plusieurs pays étrangers - l'Australie, l'Angleterre, la France, l'Allemagne, la Hongrie, le Japon, la Jamaïque, Trinité, les Etats-Unis - ont déjà manifesté leur désir d'envoyer des délégations à nos assises. Nous croyons que nous avons tout à gagner à recevoir parmi nous ces confrères.

La vieille cité de Champlain est fière de recevoir l'Association dentaire canadienne dans ses murs. Ce sera un honneur et un plaisir de vous offrir l'hospitalité pendant la durée de ce congrès.

Bienvenue à tous!

Louis Bernier

Louis Bernier,
Président du Congrès.

QUÉBEC, QUÉ., 30 MAI - 2 JUIN 1965 — QUEBEC CITY, P.Q., MAY 30 - JUNE 2, 1965

Message du président du Congrès national.

Sommaire des sujets importants à ne pas manquer

H. I. Margolis, de Boston: La responsabilité, les possibilités et les privilèges de l'omnipraticien en orthodontie clinique;
 A. J. DePietro, Philadelphie: Concepts d'occlusion;
 Quarante conférenciers;
 Douze films continuels;
 Vingt-cinq cliniques de table;
 Société des recherches dentaires de Montréal;
 Exposition d'arts et artisanat de l'A.D.C.;
 Soixante-six exposants commerciaux.

H. I. Margolis



A. J. DePietro

Déjeuners

Lundi, le 31 mai: Déjeuner de l'Association dentaire canadienne. Installation du nouveau président.

Mardi, le premier juin: Déjeuner du Collège des Chirurgiens dentistes de la province de Québec. Conférencier: J. B. MacDonald, président de l'Université de la Colombie Britannique.

Mercredi, le 2 juin: Déjeuner de l'Association dentaire de la province de Québec.

Dîner du Collège International des Dentistes, le 29 mai

Le dîner offert aux membres du Collège international des dentistes sera servi au Restaurant Kerhulu, à Québec, le samedi 29 mai.

Programme social

Dimanche soir, le 30 mai: Soirée française. Dégustation de vins et fromages. Café.

Lundi soir, le 31 mai: Soirée canadienne. Coquetel, dîner et danse.

Mercredi soir, le 2 juin: Dîner offert par le Gouvernement du Québec au Président, aux officiers et aux membres de l'Association dentaire canadienne, sous le patronage de l'honorable Jean Lesage, Premier ministre du Québec. Suivra le 'Bal du Président.'

L'Association

Réunion du Conseil d'enseignement

A la réunion du Conseil d'enseignement, tenue aux quartiers-généraux de l'Association, les 18 et 19 mars, les principaux sujets à l'étude furent: l'appréciation des facultés dentaires étrangères, le cyto-diagnostic du cancer de la bouche, l'emploi durant l'été pour les étudiants en chirurgie dentaire et les recommandations de la Commission royale d'enquête sur les services de santé.

Le Conseil résolut d'établir un sous-comité qui aura pour mission de découvrir des organismes susceptibles de fournir les renseignements nécessaires à une enquête mondiale sur les facultés dentaires, ce qui permettra au Conseil de déterminer sa politique envers les diplômés en chirurgie dentaire de certains pays étrangers.

Le Conseil incita les facultés dentaires canadiennes à conseiller aux étudiants de participer, pendant les vacances d'été, aux programmes de prévention de la carie dentaire.

Le Conseil mentionna le programme de fluoration pratiqué au cours de l'été dans l'état du Michigan comme exemple de travail de vacances profitable aux étudiants.

Assistaient à cette réunion: James McCutcheon de Montréal, président; R. V. Blackmore, Edmonton; G. E. Dexter, Halifax; J. W. Neilson, Winnipeg; O. J. Yule, Toronto; S. Wah Leung, Vancouver; et H. W. Reid, conseiller, Toronto.

Réunion du Comité sur les soins dentaires

A la réunion du Comité des services dentaires tenue aux quartiers-généraux de l'Association les 29 et 30 mars, les principaux sujets à l'étude furent: le système de valeur relative pour la fixation des honoraires, les soins aux invalides, l'enquête de 1963 sur la pratique de l'art dentaire et les recommandations de la Commission royale d'enquête sur les services de la santé.

Le Comité proposa une enquête chez les dentistes canadiens afin de dresser la liste de ceux qui, dans les villes, sont en mesure de recevoir des patients en chaise roulante. Il attira aussi l'attention sur la facilité d'obtenir des appareils portatifs tels que démontrés dans le *Journal de l'Association dentaire canadienne*, juillet 1964, p. 444.

Le Comité reçut aussi le plan d'assurance offert par la London Life Insurance Company.

Assistaient à cette réunion: R. A. Clappison de Toronto, président; Louis Bernier, Québec; J. M. Carefoot, Ajax, Ontario; B. M. MacKenzie, Edmonton; H. G. Pettapiece, Parksville, Colombie britannique; H. J. MacConnachie, Halifax; et P. G. Anderson, conseiller, Toronto.

Nouvelles du parlement

Le projet de loi instituant le Collège Royal est sanctionné

Le bill S-44, loi incorporant le Collège royal des dentistes du Canada, fut sanctionné le 18 mars. C'est l'une des 20 lois adoptées par la Chambre des Communes

et le Sénat du 26ième parlement et sanctionnées par le juge-en-chef de la Cour suprême du Canada, l'hon. Robert Taschereau, remplaçant son Excellence le gouverneur-général.

Cette loi est l'aboutissement d'un travail commencé il y a trois ans par le comité des spécialistes et de spécialisation de l'A.D.C. Elle institue le Collège royal des dentistes du Canada en autorité pour admettre après examen, les spécialistes dentaires.

Tétracycline à l'usage des femmes enceintes

Le 22 mars, à la Chambre des Communes, J. E. Walker, (York-Centre) pose la question suivante: "M. le président, voici une question dont j'ai donné avis au ministre de la Santé et du Bien-Etre: me référant au *Toronto Daily Star* du vendredi 19 mars 1965, je vois que les médecins de Grande-Bretagne ont été avertis de ne pas prescrire la tétracycline à la femme enceinte parce qu'il pourrait y avoir danger de mort pour elle ou de malformation pour l'enfant; je demande au ministre si des instructions semblables ont été émises par son Département?"

L'honorable Judy LaMarsh, ministre de la Santé et du Bien-Etre: "Oui, M. le président. Le 21 juillet 1964, le Département des Aliments et des Drogues donna instruction à tous les manufacturiers et distributeurs de tétracycline, d'inclure dans les emballages une mise en garde et un dépliant à l'usage des médecins les prévenant des effets de la tétracycline prise par la bouche ou autrement.

Le Canada

Un dentiste nommé membre du Conseil de la santé physique

Un dentiste de Niagara, W. A. Porter, est l'un des 14 canadiens réputés nommés par l'hon. Judy LaMarsh, ministre de la Santé et du Bien-Etre, au Conseil national de la santé physique et du sport amateur.

Ce Conseil, composé de 30 membres venant de toutes les provinces du Canada,

renseigne le ministre sur tout ce qui a trait à la santé physique et aux programmes de sport amateur au cours de l'année fiscale.

Ottawa consacre annuellement trois millions de dollars pour aider les organismes nationaux à améliorer les sports et les jeux, de même que la recherche concernant la santé physique et l'entraînement athlétique, en collaboration avec les provinces.

Organismes dentaires

Révision des honoraires au Québec

Les dentistes du Québec auront bientôt une meilleure échelle d'honoraires. Conrad Godin, des Trois-Rivières, est président d'un comité du Collège des chirurgiens-dentistes de la province de Québec qui s'occupe actuellement de réviser le tarif des honoraires qui remplacera celui en vigueur depuis 1961 et qui sera conforme à celui recommandé par l'Association dentaire canadienne.

(L'A.D.C. n'a pas encore de tarif, mais elle s'occupe à fixer une échelle d'honoraires en rapport avec la valeur des soins donnés, *Délibérations* de l'A.D.C. 1964, p. 19.)

Condamnation de 66 inculpés de pratique illégale au Québec

Le Collège des chirurgiens-dentistes de la province de Québec a fait condamner, en neuf mois, 66 inculpés de pratique illégale. Depuis le 1er juillet 1964, il a perçu \$19,000 en amendes. L'un des accusés fut condamné à la prison. Dans la ville et la banlieue de Québec, il y eut plusieurs saisies importantes effectuées dans des laboratoires clandestins.

Le docteur Nadeau, président de l'Association dentaire des Laurentides

L'Association dentaire des Laurentides a procédé dernièrement à l'élection de son nouvel exécutif pour l'année 1965. Le docteur J. R. Nadeau, orthodontiste de Ste-Adèle, a été élu président. Les autres

officiers sont: J. A. R. Lessard de Ste-Adèle, vice-président; Jacques Prud'homme, de St-Sauveur, secrétaire; et les docteurs J. P. Sylvestre de St-Jovite, René Paquin de St-Eustache et Réal Goulet de St-Jérôme, directeurs.

Le nouveau conseil veut multiplier les réunions d'études au cours de l'année; à tous les deux mois l'Association dentaire recevra la visite d'un omnipraticien ou d'un spécialiste qui donnera aux membres une causerie sur ses propres expériences, causerie qui sera suivie de discussions.

Chronique internationale

Grève des dentistes en France

Plusieurs cabinets de dentistes ont fermé leur porte du 18 au 20 février, pour protester contre le refus du gouvernement français d'agréer leurs revendications et de respecter les droits et la liberté des patients et dentistes couverts par l'assurance-santé.

La Fédération nationale des syndicats dentaires, société nationale dont presque tous les dentistes français sont membres, explique ainsi les motifs de leur mécontentement:

Inégalité dans le remboursement aux patients des soins payés. En remboursant certains patients plus que d'autres pour les mêmes soins, l'autorité favorise certains dentistes au détriment des autres.

L'établissement de cliniques ou de centres médicaux où les patients reçoivent les soins de praticiens salariés vient en conflit avec le principe du libre choix.

Inégalité devant l'impôt. Le refus de calculer l'impôt sur le revenu des dentistes suivant les mêmes données que celles appliquées aux salariés permet au ministre des Finances de percevoir, à revenu égal, davantage de ceux-là que de ceux-ci.

Pénurie de facultés dentaires. Bien que l'on ait depuis longtemps décidé de construire de nouvelles facultés, rien n'a été fait et les facultés actuelles sont incapables de suffire aux besoins de la population croissante.

Economie

"Nous avons trop d'ouvrage" prétendent 36 pour cent des dentistes

L'enquête faite en 1963 relativement à l'exercice de l'art dentaire démontre que 35.8 pour cent des dentistes canadiens, qui ont répondu à cette enquête, étaient "trop occupés pour traiter toutes les personnes qui faisaient appel à leurs services." 9.2 pour cent seulement ont répondu n'être pas assez occupés et demandent une clientèle plus considérable.

L'enquête de 1963 est la dernière d'une série de cinq enquêtes annuelles entreprises par le Bureau des recherches économiques.

Projet d'étatisation de la médecine en Ontario

Le rapport du "Hagey Medical Services Insurance Committee," présenté à la Législature de l'Ontario le 26 février, rejette le système gouvernemental de la Saskatchewan pour l'étatisation de la médecine et favorise celui de l'Alberta.

Voici les points saillants de ce rapport:

Admission immédiate d'une assurance-santé accessible à tous, quels que soient l'âge, l'état de santé et les moyens financiers;

Volontariat pour médecins et patients;

Gratuité complète pour les indigents, proportionnée aux moyens pour les gagne-petit;

Indemnité à ceux qui perdent soudainement leur emploi;

Accessibilité à deux plans d'assurance, l'un plus cher, couvrant tous les soins, l'autre moins cher, ne les couvrant pas tous et l'assurance-groupe.

Païement des honoraires de médecin et autres soins médicaux suivant le "plan bleu" de la "Physicians' Services Incorporated" (P.S.I.), les primes annuelles s'élevant à environ \$70 pour une personne, \$140 pour un couple et \$175 pour une famille;

Le Comité croit qu'il en coûtera au gouvernement \$53.7 millions annuellement si tous les groupes à revenus modestes en

font partie, ce qu'il considère peu probable;

Les groupes à revenus modestes seront tenus de permettre à la province un regard sur leur rapport fédéral d'impôt sur le revenu;

Les honoraires des spécialistes sont inclus;

Exclusion des autres soins médicaux, y compris ceux des dentistes et des chiropraticiens et les médicaments;

Organisation d'un bureau de surveillance formé des représentants suivants: deux pour les assureurs, deux pour les médecins et trois pour les assurés.

L'A.D.A. s'oppose aux cabinets dentaires dont les propriétaires ne sont pas des dentistes

L'Association dentaire américaine "s'oppose formellement" à ce que le gouvernement fédéral encourage l'organisation de cabinets dentaires, propriété ou exploitation d'individus ou de groupes non-professionnels.

S'adressant à un Comité du Congrès des États-Unis, le 4 mars dernier, un membre du Conseil de législation de l'A.D.A., L. I. Kerr, dit: "L'Association encourage plutôt le développement de cliniques dentaires convenables, avec la participation des praticiens-dentistes. Il précisa que l'Association dentaire américaine s'oppose aux cliniques dentaires dont les propriétaires sont des non-professionnels employant des dentistes ou médecins salariés.

Fluoration

Le Nouveau-Brunswick aura une loi sur la fluoration

Le gouvernement du Nouveau-Brunswick propose une loi permettant la fluoration des aqueducs municipaux. Le ministre de la Santé, G. L. Dumont, annonçait le 23 mars qu'un amendement serait apporté prochainement à la Loi de la Santé, per-

mettant aux municipalités qui le veulent de fluorer leur eau potable. La loi actuelle donne au ministre des pouvoirs étendus incluant celui de permettre l'assainissement des eaux, permission soumise à l'approbation de l'Exécutif. L'amendement aurait pour effet d'en laisser la décision aux municipalités elles-mêmes.

Mitchell Levine, parlant pour la Société dentaire de Saint John, louangea ce geste du gouvernement, ajoutant qu'il sera urgent de procéder à la fluoration de l'eau fournie par cette ville dès que la nouvelle loi aura été sanctionnée. En 1957, dit-il, la population de Saint John a déjà voté pour la fluoration.

M. J. Crompton, secrétaire-trésorier de la Société dentaire du Nouveau-Brunswick, se déclara, lui aussi, heureux de cette mesure gouvernementale. La Société demande la fluoration depuis nombre d'années. La Fédération des Associations pour le foyer et l'école (Home and School Associations) au Nouveau-Brunswick favorise grandement la fluoration.

Exemple d'influence démocratique

Il apparaît que le ministre de la Santé de la Colombie britannique, Eric Martin, devant la réaction de la population et les raisons apportées par les dentistes, a fait volte-face au sujet de la fluoration.

Okanagan-Sud devait tenir un plébiscite sur la fluoration. M. Martin avait d'abord interdit au Bureau de la santé de travailler en faveur de cette mesure, mais il revint ensuite sur sa décision.

Voici ce qu'écrivit le *Penticton Herald* du 9 Décembre 1964, à ce sujet:

"Nous devons féliciter le ministre de la Santé, Eric Martin, de sa volte-face. En effet, il avait d'abord empêché l'Unité sanitaire de Okanagan-Sud de travailler pour que la fluoration fût votée au plébiscite du 12 décembre.

"M. Martin eut le courage d'admettre s'être trompé lorsqu'il laissa le champ libre aux docteurs David Clarke et Alan Gray d'exposer, à la télévision, la thèse de la fluoration. M. Martin déclara n'être pas contre la fluoration. C'était presque dire qu'il est en faveur de cette mesure sage et prudente qui protégera nos enfants contre la carie dentaire. Quant un

ministre cède à la pression exercée par un groupe opposé à un projet aussi bénéfique que sain, on peut conclure qu'il cèdera toujours à semblable influence. Espérons toutefois que cette leçon profitera à M. Martin."

48 millions d'Américains consomment de l'eau fluorée

Le United States Public Health Service signale qu'un nombre total de 48,363,066 d'Américains dans 27,598 municipalités consommaient de l'eau fluorée au début de 1965. De plus, 7,705,998 personnes habitaient des régions où l'eau contient naturellement du fluor.

Les plus grandes villes où l'eau de consommation est fluorée sont: Chicago, Philadelphie, Baltimore, Cleveland, Washington, St-Louis, Milwaukee, San Francisco, Pittsburgh et Buffalo. Les dix plus grandes villes sans eau fluorée sont New York, Los Angeles, Détroit, Boston, Nouvelle Orléans, San Antonio, San Diego, Seattle, Cincinnati et Memphis.

New York a approuvé la fluoration de son eau potable et l'on s'attend à la mise en opération de cette mesure au début du printemps. Le conseil de la ville de Détroit a aussi approuvé cette mesure mais son fonctionnement a été remis jusqu'au référendum qui aura lieu en novembre prochain.

Le Connecticut ordonne l'adoption de la fluoration

Le Conseil de la santé publique de l'état du Connecticut a adopté un règlement par lequel les plus grandes municipalités de l'état sont requises de commencer à fluorer l'eau potable. Toutes les municipalités de 20,000 à 50,000 habitants, dont l'eau potable ne contient pas suffisamment de fluor devront commencer la fluoration avant le 1er octobre 1967. Les municipalités dont la population est de 50,000, ou plus, devront le faire avant le 1er Janvier 1967.

Ce règlement entra en vigueur dès sa publication dans l'édition de février du *Connecticut Law Journal*. Comme tout

règlement, celui-ci devra être soumis à la législature de l'état.

Cesser la fluoration . . . et en subir les conséquences!

Un rapport venant d'Antigo, Wisconsin, montre des résultats dommageables dus au fait qu'on a cessé la fluoration.

Le Bureau de la santé de cet état rapporte que la carie dentaire augmenta jusqu'à 183 pour cent chez les enfants après que cette localité eût abandonné la fluoration de l'eau.

Antigo, ville de 9,600 habitants, fut alimentée d'eau fluorée de 1949 à 1960, date à laquelle les contribuables votèrent l'abolition de cette mesure. Depuis, on a constaté que la carie dentaire a augmenté de 92 pour cent chez les enfants des maternelles, de 183 pour cent chez ceux de la deuxième année et de 111 pour cent chez ceux de la quatrième année.

Recherches

Un matériel adhésif, pour les restaurations, mis à l'épreuve à Vancouver

Les citoyens de Vancouver seront parmi les premiers du monde à bénéficier d'une nouvelle substance adhésive pour l'obturation des dents. R. H. Roydhouse, assistant professeur du département de

dentisterie restaurative, à la Faculté de chirurgie dentaire de l'Université de la Colombie britannique travaille à ce nouveau matériel depuis 1961.

La nouvelle substance, que l'on décrit comme étant un polymère ou résine synthétique mêlée à une variété de minéraux et verre, et qui est actuellement sur le marché aux Etats-Unis, est connue sous le nom commercial d'Addent et destinée à remplacer les ciments de silicate. L'on prête à ce nouveau matériel de nombreux avantages tels que celui de prendre la couleur de la dent, de nécessiter une cavité moins profonde que ne demande un ciment de silicate et, de plus, il renforce la dent au lieu de l'affaiblir.

Le matériel constitue une épaisse pâte blanche facile à appliquer dans la cavité, qui durcit en trois minutes.

Le docteur Roydhouse croit que les qualités de l'adhésif pourraient servir à la prévention de caries dentaires chez les enfants. Peint sur la dent, le matériel forme une tunique dans les fissures et crevasses sur les surfaces occlusales et empêche les parcelles d'aliments de s'y entasser.

Depuis plus d'un an, la nouvelle substance a été mise à l'épreuve par les dentistes de Vancouver. Plus tard cette année, le docteur Roydhouse ira à Rochester, New York, pour contrôler les résultats d'une expérience par laquelle l'adhésif a été peint sur les dents d'enfants.

Les périodiques courants procurables à la bibliothèque de l'A.D.C. • La bibliothécaire a préparé une liste des périodiques canadiens et étrangers régulièrement reçus à la bibliothèque de l'A.D.C. L'emprunt de ces périodiques est à la disposition de tous les membres de l'Association dentaire canadienne. Les lecteurs qui désirent une copie de cette liste sont invités à adresser leur requête à la Bibliothécaire, L'Association dentaire canadienne, 234 rue St-Georges, Toronto 5, Ontario.

dentistry in the news

National Convention

Advance Registration Recommended

A large number of early advance registrations attest to the popularity of the forthcoming C.D.A. national convention in Quebec City. Delegates who have not yet done so are urged to register now by completing and mailing the registration form on this page.

Governors Meeting May 25-29

The Board of Governors annual meeting is slated for the Chateau Frontenac Hotel, Quebec City, May 25-29. This meeting is open to all members of the Association who are urged to attend and participate in the deliberations.

Panel Discussions:

Monday afternoon, May 31. Relative Value System of Fee Determination. Panelists: R. A. Clappison, R. C. Freeman and W. W. Pressey, Toronto.

Tuesday afternoon, June 1. Canadian Dental Association panel presentation: Feasibility of Introducing a National Dental Health Scheme in Canada Following the Recommendations of the Hall Commission. Panelists: J. M. Chamard, D.D.S., Montreal; Jean Marchand, president, National Confederation of Trade Unions, Quebec City, P. Quebec.

Wednesday afternoon, June 2. Special panel presentation by 12 clinicians.

Convention Highlights at a Glance

See, visit or hear the following outstanding convention attractions:

H. I. Margolis, Boston: The General Practitioner's Responsibilities, Opportuni-

Complete this form and mail with the registration fee to Canadian Dental Association Convention, 1160 avenue des Erables, Québec 6, P. Qué. Make cheques payable to 'C.D.A. 1965 Convention.' Registration fee, \$40 (single), \$10 (wife). Early registration is most desirable and will be greatly appreciated. Reserved accommodation will be confirmed directly from a hotel or motel.

National Convention Canadian Dental Association Dental Association of the Province of Quebec May 30 — June 2, 1965	Québec	Congrès national Association dentaire canadienne Association dentaire de la province de Québec du 30 mai au 2 juin, 1965
Name/Nom _____		
Address/adresse _____		
City/ville _____ Province _____		
Wife's Christian Name/prénom de l'épouse _____		
Accommodation requested	Hotel ☐ single/simple	☐ double ☐
Logement désiré	Motel ☐ twin/jumeaux	☐ suite ☐

CONGRES DE L'ASSOCIATION DENTAIRE CANADIENNE
CANADIAN DENTAL ASSOCIATION CONVENTION

Dear Confrère:

En collaboration
In Cooperation

avec
with

La Société dentaire
de Québec

The Quebec Dental
Society

★

L'Association dentaire
de la province de Québec

The Dental Association
of the Province of Quebec

★

Le Collège des Chirurgiens
dentistes de la province
de Québec

The College of Dental
Surgeons of the Province
of Quebec

The forthcoming National Convention of the Canadian Dental Association gives me the pleasure of extending to you a cordial invitation on behalf of La Société Dentaire de Québec. Your convention committee has endeavoured to:

- present a scientific program in keeping with the high standards of our profession;
- provide a social program to satisfy every taste and encourage free interchange of views on all aspects of our professional life;
- a common meeting ground for the profession and related organizations - dental hygienists, dental assistants, representatives of the dental trades and of pharmaceutical manufacturers - whose support is so essential to the provision of dental care.

Several foreign countries - Australia, England, France, Germany, Hungary, Japan, Jamaica, Trinidad and the United States - have made known their intention of sending delegations. This will certainly add an international flavour to our meeting.

Quebec City is proud on this occasion to be host to the Canadian Dental Association. Our best reward will be the opportunity of helping you to enjoy French Canada's hospitality.

Welcome to Quebec City!



Louis Bernier,
Convention Chairman.

QUÉBEC, QUÉ., 30 MAI - 2 JUIN 1965 — QUEBEC CITY, P.Q., MAY 30 - JUNE 2, 1965

Your personal invitation from the Convention Chairman.

ties and Privileges in Clinical Orthodontics;

A. J. DePietro, Philadelphia: Concepts of Occlusion;

Forty clinicians and essayists;

Twenty-five table clinics;

Montreal Dental Research Society;

C.D.A. Arts and Handicraft Exhibit;

Sixty-six commercial exhibits.

Meetings of Affiliated and Related Groups

The following affiliated or related organizations will meet immediately before or during the national convention in Quebec City: Canadian Society of Oral Surgeons, Canadian Society of Orthodontists, Canadian Academy of Periodontology, Canadian Academy of Prosthodontics,

Canadian Academy of Dental Sciences, Canadian Dental Hygienists' Association and Canadian Dental Assistants' Association.

Prosthodontists Will Meet in Quebec

The Canadian Academy of Prosthodontics will hold its annual meeting at the Chateau Frontenac Hotel in Quebec City on May 29. Further program details may be obtained from the secretary-treasurer, W. G. Woods, 123 Edward Street, Toronto 2, Ontario.

Luncheon Meetings

Monday, May 31. Canadian Dental Association luncheon. Installation of new president.

Tuesday, June 1. College of Dental Surgeons of the Province of Quebec luncheon. Speaker: J. B. Macdonald, president, University of British Columbia.

Wednesday, June 2. Dental Association of the Province of Quebec luncheon.

International College Dinner May 29

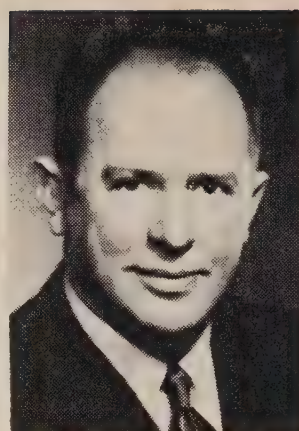
The International College of Dentists has scheduled a dinner at the Kerhulu Restaurant, Quebec City, on Saturday, May 29.

Social Highlights

Sunday evening, May 30. "Soirée Française." Wine and cheese tasting party and coffee.

Monday evening, May 31. "Soirée Canadienne." Cocktails, dinner and dance.

Wednesday evening, June 2. Dinner tendered by the Government of Quebec to the president, officers and members of the Canadian Dental Association. This dinner, under the patronage of the Hon. Jean Lesage, premier of Quebec, will be followed by the President's Ball.



H. I. Margolis



A. J. De Pietro

The Association

Council on Education Meets

Evaluation of foreign dental schools, cyto-diagnosis of oral cancer, summer employment for dental students, and dental recommendations of the Royal Commission on Health Services were among the topics considered when the Council on Education met at Association headquarters March 18-19.

The Council agreed to establish a sub-committee to "determine the existence of agencies from which a world-wide survey of dental schools might be undertaken." This action will assist the Council in developing a "policy concerning [dental] graduates of certain foreign educational systems."

The Council also urged Canadian dental schools to encourage their students to participate in preventive dental health projects during summer holidays. Council cited the Michigan State summer topical fluoride program as an example of summer employment from which dental students derive educational benefit.

In attendance at the council sessions were James McCutcheon of Montreal, chairman; R. V. Blackmore, Edmonton; C. E. Dexter, Halifax; J. W. Neilson, Winnipeg; O. J. Yule, Toronto; S. Wah Leung, Vancouver; and H. W. Reid, adviser, Toronto.

Dental Services Committee Meets

The relative value system for the determination of dental fees, dental care for physically disabled persons, the 1963 survey of dental practice, and the dental recommendations of the Royal Commission on Health Services were among the major items on the agenda of the Dental Services Committee meeting, March 29-30, at Association headquarters.

The Committee proposed a survey of Canadian dentists in order to establish a list of dental offices in urban areas which can receive and are accessible to patients confined to a wheel chair. Attention was directed to the availability of portable dental equipment as illustrated on page 444 of the July 1964 *Journal of the Canadian Dental Association*.

The Committee also received a detailed description of the dental insurance plan offered by the London Life Insurance Company.

Attending the meeting were R. A. Clappison of Toronto, chairman; Louis Bernier, Quebec City; J. M. Carefoot, Ajax, Ontario; B. M. MacKenzie, Edmonton; H. G. Pettapiece, Parksville, British Columbia; H. J. MacConnachie, Halifax; and P. G. Anderson, adviser, Toronto.

News from Parliament

Royal College Bill Becomes Law

Bill S-44, an Act to incorporate the Royal College of Dentists of Canada, received royal assent on March 18. It was one of 20 bills passed by the House of Commons and Senate of the 26th Parliament which received royal assent from the Chief Justice of Canada, the Hon. Robert Taschereau, acting on behalf of His Excellency the Governor-General.

The new act, representing a project initiated three years ago by the C.D.A.'s Specialists and Specialization Committee, establishes the Royal College of Dentists of Canada as a national dental specialty qualifying and examining authority.

Tetracycline: Use by Expectant Mothers

The following exchange occurred in the House of Commons on March 22:

J. E. Walker (York Centre): Mr. Speaker, I have a question for the Minister of National Health and Welfare, of which I have sent her notice. With reference to a news report in the *Toronto Daily Star* of Friday, March 19, 1965, to the effect that British doctors have been warned not to give tetracycline drugs to expectant mothers because they might kill the women or cause deformed babies, may I ask the Minister whether similar instructions have been issued by her department?

Hon. Judy V. LaMarsh (Minister of National Health and Welfare): Yes, Mr. Speaker. Instructions were issued by the Food and Drug Directorate on July 21, 1964, to all manufacturers and distributors of tetracycline preparations to include a warning statement in the package insert and physicians' literature of their oral and parenteral tetracycline preparations.

Canada and the Provinces

Niagara Dentist named to Fitness Council

W. A. Porter, well known Niagara Falls dentist, was one of 14 prominent Canadians recently named by the Hon. Judy LaMarsh, minister of national health and welfare, to the National Advisory Council on Fitness and Amateur Sports.

The 30 member council representing all parts of Canada advises the minister on matters relating to national fitness and amateur sports programs in the current fiscal year. Ottawa currently provides three million dollars to assist national agencies in developing their sports and recreational activities and to aid fitness research and advance training with provincial co-operation.

New Home for Canadian Pharmacists

April 6 marked the opening of the Canadian Institute of Pharmacy building in Toronto. Located at 175 College Street, the C.I.P. building houses the national administrative offices of the Canadian Pharmaceutical Association—the national

association of over 8,200 Canadian pharmacists in all branches of the profession.

Dental Organizations

Quebec College Studies Fees

Quebec dentists may soon have a new and more comprehensive scale of fees. Conrad Godin of Trois-Rivieres is chairman of a committee of the College of Dental Surgeons of the Province of Quebec developing a new scale. The new scale, intended to replace the current schedule issued in 1961, will reportedly "be similar to that recommended by the C.D.A."

The Canadian Dental Association has no actual fee scale but is developing a relative value system for fee determination in conjunction with a reference list of dental services (C.D.A. *Transactions* 1964, page 19).

Convict 66 for Illegal Practice in Quebec

The College of Dental Surgeons of the Province of Quebec has obtained 66 convictions during the past nine months against individuals accused of practising illegally. Fines amounting to \$19,000 have been levied since July 1, 1964. A jail sentence was imposed on one of the accused. Illegal practice was particularly active in the Quebec City region where important seizures were made in several clandestine laboratories.

Montreal Club Hears W. B. Donohue

Montreal oral surgeon W. B. Donohue addressed the February meeting of the Montreal Dental Club. Dr. Donohue, who is associate professor of oral surgery at the Université de Montréal, discussed surgical treatment of anomalies of the jaw. He described four conditions where surgical intervention aids in treatment of malocclusion: shifting of the teeth; bodily movement of the whole arch; treat-

ment or replacement of defective growth centres; and trauma or extensive infection.

Montreal Groups Stage Joint Meeting March 23

A. I. Chasens addressed a joint meeting of the three Montreal societies (Montreal Dental Club, Mount Royal Dental Society, Société Dentaire de Montréal) on March 23. Dr. Chasens' topic was the "Management of the Periodontal Patient." The afternoon session was devoted to aetiology, classification diagnosis, prognosis and treatment planning. Later at the evening meeting Dr. Chasens described "The Concept of Periodontal Therapy Aimed at Total Eradication of the Periodontal Pocket."

Goldhaber Delivers 1965 Mowry Lecture

Paul Goldhaber, associate professor of periodontology and director of postdoctoral studies at Harvard School of Dental Medicine, delivered the 1965 Mowry Memorial Lecture at the Montreal General Hospital April 20. Dr. Goldhaber's topic was "The dynamics of bone resorption." The annual Mowry Memorial Lecture is sponsored by the Mount Royal Dental Society of Montreal.

Niagara Dentists Debate Woods Gordon Report

At a recent meeting in St. Catharines of the Niagara Peninsula Dental Association a panel discussion was held titled "The dentist's business." The panel participants were W. G. McIntosh, secretary of the Canadian Dental Association; E. J. Rajczak of Hamilton, representative for District 8 of the Royal College of Dental Surgeons of Ontario; G. K. Chapman of Fort Erie, member of the Board of Governors of the Ontario Dental Association; and R. M. Singer, Toronto, representing the Canadian Council on Dental Information. Murray Wertman of St. Catharines, president of the Niagara association, acted as moderator. The panel members



Left: Hosts and visitors during the recent C.D.A. presidential visit to Winnipeg are (l. to r.) W. J. Campbell, registrar secretary of the Manitoba Dental Association; C.D.A. President Rémy Langlois of Quebec City; C.D.A. Secretary, W. G. McIntosh of Toronto; and J. P. Beattie of Winnipeg, president of the Manitoba Dental Association. In the right-hand picture former Manitoba Dental Association President K. M. Johnson greets C.D.A. President Rémy Langlois. The occasion was the C.D.A. president's annual visit to western Canadian dental organizations.

gave their respective views on the Woods Gordon report on proposed reorganization of the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association. The meeting concluded following a question and answer period.

Pres. Langlois Addresses Manitoba Assn.

C.D.A. President Rémy Langlois and Secretary W. G. McIntosh addressed a dinner meeting of the Manitoba Dental Association in Winnipeg February 22 during the annual presidential visit to dental organizations in western Canada.

Dr. Langlois stressed the need for unity within the profession and Dr. McIntosh outlined important issues currently engaging the attention of the national association.

A highlight of the meeting was the presentation of plaques to eight former presidents of the Manitoba association. Honoured were W. W. Wright, D. A. McCarten, C. D. McLeod, N. C. Carmichael, K. M. Johnson, J. M. Grahame and J. B. Rumberg, all of Winnipeg, also A. R. Hurst of Brandon.

Other past presidents who are to be similarly honoured in the near future are C. S. Robertson of Dauphin; F. W. Par-

rott of Portage-la-Prairie; also M. H. Garvin, T. J. Cooke, W. I. Jackson and J. G. Elsey, all of Winnipeg.

Skoretz is President of N.E. Alberta Society

Lloyd Skoretz, a Lloydminster, Alberta, dentist was recently installed as president of the North Eastern Alberta and District Dental Society. Other officers of the dental group are: D. N. Lawton, St. Paul, president-elect, and V. J. Stelmashuk, Lloydminster, secretary-treasurer. P. F. Holt of Lloydminster and S. H. Hardin of Vegreville were named as directors.

Alberta Hygienists Organize

The Alberta Dental Hygienists Association held a meeting at the University of Alberta, Edmonton, February 20. Following adoption of a constitution and by-laws, the Association decided to apply to the provincial government for registration under the Societies Act.

Executive officers for 1965 are Miss C. A. Logie of Calgary, president; Miss L. M. Kishimoto of Edson, secretary; and Miss J. Rask of Edmonton, treasurer.

Alberta Assistants Meet in Banff, June 16-19

The Alberta Dental Nurses and Assistants Association will hold its annual meeting at the Banff Springs Hotel, Banff, Alberta, in conjunction with the Western Canada Dental Society convention June 16-19. Further information may be obtained from Miss Florence Edwards, 2940-17 Avenue S.W., Calgary, Alberta.

B.C. Annual Convention This Month

The British Columbia Dental Association will hold its annual convention at the Hotel Vancouver May 20-22. The featured speaker is Roy Garn of New York whose subject will be "The Importance of Emotional Appeal in Personal and Practice Communication."

Other clinicians are J. C. Bartels of Portland, Oregon, who will give a review of operative dentistry, and W. H. Fisher of Tacoma, Washington, who will demonstrate a new wax pattern technique. Two dental faculty members of the University of British Columbia will also lecture. They are R. H. Roydhouse, speaking on a new adhesive filling material, and D. G. Middaugh speaking on dental equipment.

At this convention a 'dentist of the year' will receive an award for excellence in community service.

Langlois and McIntosh Address Vancouver Society

Canadian Dental Association President Rémy Langlois and Secretary W. G. McIntosh addressed the March meeting of the Vancouver and District Dental Society. Dr. Langlois reviewed the history of the Canadian Dental Association and reported about the work of the C.D.A.'s steering committee on the Royal Commission on Health Services. Dr. McIntosh pleaded for a constructive approach to the Hall Commission Report and stressed the urgency of presenting a united front.

A. H. Bayne and Clinton Vroman were made life members of the Society. Active in the Society for 20 years, Drs. Bayne

and Vroman have practised dentistry for 45 years.

Canadian Dental Schools

Philippine Visitor to Manitoba Faculty

José Rodriguez, dean of the School of Dentistry of the University of the Philippines, Manila, visited the Faculty of Dentistry of the University of Manitoba in March.

Manitoba Faculty Staff at Brandon Seminar

Members of the Faculty of Dentistry, University of Manitoba, participated in a two-part seminar held at Brandon, Manitoba, during February and March. The events were sponsored by the provincial health department and the Western Manitoba Dental Society.

At the first session in February J. F. Cleall spoke on "Orthodontics for the general practitioner."

The theme for the March session was "Current developments in dentistry." W. H. Feasby, Z. Kasloff and F. J. Marshall spoke on this occasion. Their topics covered paedodontics, dental materials and endodontics.

Manitoba Faculty Stages Seminar on Hygienist Utilization

D. O. Erickson, president of the Minneapolis District Dental Society, was the key speaker at a seminar on the utilization of the dental hygienist in private practice held at Winnipeg during late February. Sponsored by the Faculty of Dentistry of the University of Manitoba and the Manitoba Dental Society, the seminar covered integration of a hygienist into the dental practice, economic effect of the hygienist in a practice, and clinical skills of the dental hygienist. Other participants in the program were Dean J. W. Neilson of the Manitoba Dental Faculty, Miss Dixie



Seen at the March session of the Brandon, Manitoba, Dental Seminar co-sponsored by the Manitoba Department of Health and the Western Manitoba Dental Society are (l. to r.) W. H. Feasby of the University of Manitoba; President J. D. Beattie of the Manitoba Dental Association; F. J. Marshall and Z. Kasloff of the University of Manitoba; J. D. L. Kennedy of Brandon and C. H. McCormick of the Manitoba health department.

Scholes, associate director of the Manitoba School of Dental Hygiene, Miss Louise Pollard and L. A. Richardson.

Recruitment: Ont. High School Students Tour Toronto Faculty

Some 100 high school students toured the University of Toronto's Faculty of Dentistry April 22. The visit was sponsored by two south-western Ontario dental societies and conducted under the auspices of the Ontario Dental Association's Recruitment Committee. Similar visits by Ontario high school students have taken place in previous years. The purpose of these visits is to stimulate interest in dentistry as a career.

McGill Faculty Honours Van Vliet

J. E. Van Vliet, who retired last year from the Department of Operative Dentistry, McGill University, was guest of honour at a special dinner meeting of the operative and paediatric dentistry departments held at the Faculty Club, Montreal, January 28. Some 20 McGill staff

members witnessed the presentation of an engraved memento to Dr. Van Vliet. The event marked the end of a distinguished teaching career that extended over some 25 years.

Royal Canadian Dental Corps

Col. Leman Attends Research Meeting

Col. A. C. Leman, senior consultant for the Royal Canadian Dental Corps, represented the Director General of Dental Services at the 31st annual meeting of the Associate Committee on Dental Research of the National Research Council of Canada, at Ottawa on March 10.

Brig. Wansbrough New Colonel Commandant

The Honourable Paul T. Hellyer, Minister of National Defence, recently named Brig. E. M. Wansbrough as new Colonel Commandant of the Royal Canadian Dental



Brig. E. M. Wansbrough

Corps. The appointment became effective January 16.

Brig Wansbrough succeeds Col. J. F. Edgecombe of Saint John, New Brunswick, who served in this appointment since January 6, 1960.

Capt. Wade Transferred

Capt. P. S. Wade, Esquimalt, British Columbia, was air-lifted late March for employment with the Dental Detachment, Canadian Contingent, United Nations, Cyprus.

Professional Training:

Maj. D. J. Carmichael, R.C.A.F. Station, Clinton, Ontario, attended a two-week course, March 8-19, in crown and bridge prosthodontics at the University of Michigan, Ann Arbor, Michigan.

Lt.-Col. F. D. Charman, R.C.A.F. Station, St. Jean, P. Quebec, attended a two-week course, March 29-April 9, in minor oral surgery at the University of Michigan, Ann Arbor, Michigan.

Maj. Taylor Returns from Easter Island Expedition

Canada's Easter Island medical research team returned to Halifax March 17 aboard H.M.C.S. Cape Scott, a Navy repair ship, after a four-month expedition to the South Pacific island. Maj. A. G. Taylor, R.C.D.C., a member of this group throughout the expedition, will shortly report his

observations and findings of this ancient and isolated people.

International Items

French Dentists Strike

Many dental offices in France closed February 18-20 in protest against alleged government refusal to meet dentists' "essential claims" and "safeguard the liberties and rights of health insurance patients and their dentists."

The Confédération Nationale des Syndicats Dentaires—the national association to which most French dentists belong—describes the following as the sources of present discontent:

Disparity in reimbursement of patients' payments. By reimbursing some patients at a higher level than others in respective fees they have paid for the same items of treatment, the public authorities are discriminating against certain dental practitioners.

The setting up of clinics or health centres, where patients may receive treatment from salaried practitioners, conflicts with the principle of free choice of dentist.

Differential rates of tax. By refusing to apply to dentists the same system of calculation for tax on declared income as is applied to wage earners, the Ministry of Finance exacts more taxes than for wage earners of equal income.

Lack of new dental schools. Although approval was given years ago for the creation of new dental schools, these have not materialized and existing schools are incapable of meeting the needs of a growing population.

Economics

Medicare Plan for Ontario Unveiled

The 71 page report of the Hagey Medical Services Insurance Committee presented to the Ontario legislature February 26

has rejected Saskatchewan-style government-operated medicare. Instead, the report endorses the type of medical plan established in Alberta.

Major features of the Hagey Committee report and recommendations are:

Immediate introduction of health insurance available to all regardless of age, condition of health or financial means;

Voluntary for physicians and patients;

Complete subsidization of welfare recipients and graduated subsidies for low income groups;

Subsidies for people who suddenly become unemployed;

Availability of two types of policies—a more expensive policy providing first dollar coverage and a less expensive policy with deductibles and co-insurance;

Coverage of physicians' fees and other medical costs comparable to the Physicians' Services Incorporated (PSI) 'blue' plan. Maximum and annual premiums estimated at \$70 (individuals), \$140 (couples), \$175 (families);

An estimated total cost to the government of \$53.7 million annually if all the low income groups enter the plan—which the committee considers unlikely;

Low income people being subsidized must authorize the province to check federal income tax information;

Inclusion of specialists' fees;

Exclusion of other medical services, including dental care, chiropractors and drugs;

Establishment of a medical services insurance council to supervise the plan, made up of two representatives of the insurance carriers, two of the physicians, and three representing the general public.

"We're Too Busy," Say 36 Per Cent of Dentists

Results of the 1963 Survey of Dental Practice show that 35.8 per cent of responding Canadian dentists were "too busy to treat all people requiring appointments." Only 9.2 per cent of responding dentists indicated that they were not busy enough and desired more patients.

The 1963 survey is the latest in a series

of five-year surveys undertaken by the Bureau of Economic Research.

Research

Plan Publication of World-Wide Dental Abstract Journal

A pilot study leading toward an abstract journal for the world's dental literature is being conducted by the American Dental Association in co-operation with the Public Health Service of the United States Department of Health, Education and Welfare. The Service's National Library of Medicine, Division of Dental Public Health and Resources, and National Institute of Dental Research are sponsoring the project, which seeks to provide the first comprehensive coverage of international research literature related to dentistry and oral health. Between now and August, the A.D.A. will acquire sample abstracts of articles from the world's major dental journals and from selected non-dental journals, with a view to using them in a journal of abstracts. Both basic and applied research will be covered, with specific subject areas to include oral biology, chemistry, physiology and nutrition; cause and occurrence of dental disorders; dental materials and technology; dental health communications and information; and social and behavioural research related to dentistry.

Approximately half of the abstracts will be obtained from established sources in the United States. The remainder will be prepared by the faculty of the Hadassah School of Dentistry of Hebrew University, Jerusalem.

The decision to establish a journal of abstracts will be made on the basis of experience gained in the trial period. Ultimately some 250 dental journals, as well as a larger number of non-dental publications, may be covered in the abstract journal. Publication of approximately 9,000 abstracts annually is proposed. It is hoped that such an abstract journal eventually will make available to specialists in oral diseases the informa-

tion in their field catalogued in the National Library of Medicine's computer indexing program.

Public Health

Brandon Dentists Attend Seminar

More than 20 Brandon and district dentists attended a two-part seminar during February and March. At the February meeting J. F. Cleall spoke on "Orthodontics for the general practitioner." At the March meeting W. H. Feasby, Z. Kasloff and F. J. Marshall spoke on "Current developments in dentistry" including paedodontics, dental materials and endodontics. All lecturers are from the Faculty of Dentistry, University of Manitoba.

Annual dental seminars of this kind are co-sponsored by the Dental Care Services of the Manitoba Health Department and the Western Manitoba Dental Society.

Fluoridation

Lesson on Liberty

Public reaction and strong representations by the dental profession have apparently induced British Columbia Health Minister Eric Martin to reverse his stand on prohibiting provincial public health personnel from participating in fluoridation campaigns.

Mr. Martin reportedly first issued and then cancelled a directive to the South Okanagan Board of Health to stop promoting fluoridation prior to a recent fluoridation plebiscite.

Here is what the December 9, 1964 *Penticton Herald* had to say about the matter:

"Health Minister Eric Martin is to be congratulated for changing his mind on inhibiting the public health education activities of the South Okanagan health unit in the current campaign to secure fluoridation of Penticton's water supply by a successful referendum vote, December 12th.

"It takes a good man to admit he was wrong and this, in effect, is what Mr. Martin did Tuesday when he would not interfere with current activities by Dr. David Clarke and Dr. Alan Gray to present the case for fluoridation to Penticton voters in a series of television programs. And to qualify his personal stand, Mr. Martin said he was not against fluoridation. That's the next best thing to saying he is for this wise and intelligent plan to protect the dental health of our children. When a government minister surrenders in the face of 'tremendous pressure' from those opposed to such a safe and beneficial project as fluoridation, the implication is that he will surrender every time he is pressed hard. Let's hope Mr. Martin has learned his lesson!"

Discontinue Fluoridation . . . And Suffer the Consequences

The adverse effects resulting from discontinuation of fluoridation are evident in a report from Antigo, Wisconsin.

The Wisconsin State Board of Health reported that tooth decay rose by as much as 183 per cent among comparable groups of children there after the community abandoned its fluoridation program.

A city of 9,600, Antigo had fluoridated water from 1949 until 1960 when residents voted to discontinue it. Since 1960, findings show that dental caries has risen 92 per cent among kindergarten children, 183 per cent among grade 2 children and 100 per cent among grade 4 children.

Awards and Honours

J. E. Van Vliet was honoured at a special dinner meeting in Montreal January 28 by fellow faculty members upon his retirement from the teaching staff of the Department of Operative Dentistry, McGill University.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Halifax Claims Oldest Anglican Church

To the Editor:

I read your editorial in the March Journal entitled "Quebec: city with a history" with a great deal of interest and expect to visit some of the historic sites you mentioned. I must, however, take exception to one statement you made, "The city's Anglican Cathedral is noteworthy as the first Church of England to be erected outside the British Isles. Built in 1804, its stained windows are priceless."

No doubt the stained windows are priceless but the church misses the distinction of being the first Church of England in Canada by over half a century.

The Church of St. Paul was established and built by the Royal Foundation in Halifax in 1749 and services have been conducted in the same edifice continuously since that time. No doubt you will be receiving many letters

pointing out that St. Paul's in Halifax is the oldest church of British origin in Canada.

K. M. Kerr, D.D.S.,
Bedford, N.S.

Observant Dr. Kerr is quite correct. Quebec's Anglican Cathedral is only the first Church of England Cathedral to be erected outside the British Isles. The word cathedral was inadvertently lost during type-setting.
(Ed.)

More Letters about "Storm Warning"

To the Editor:

In the January issue of the C.D.A. Journal, you published a most astounding editorial (Storm Warning). It appears vitally important to many of us that certain assertions made should be enlarged upon in the interests of clarity and for the information of the profession. Would you please be good enough to reply to the following questions:

1. Which of Canada's largest cities is referred to in the editorial?

2. Which dental society in the aforementioned city is receiving approximately 40 telephoned complaints daily?

The statement is also made that "at the heart of many of these controversies lies the matter of fees." This raises a further question pertinent to the subject:

3. What proportion of these 40 daily complaints is about fees; what other areas of practice conduct are complained about and in what relative proportion?

Jocelyn Zuck, D.D.S.,
1876 Weston Road, Weston, Ont.

To the Editor:

Your editorial, "Storm Warning," in the January Journal focuses attention on a situation in Canadian dentistry that is fast approaching emergency proportion. The situation is not the one you examined on a rather factless basis, but the growing rift in communi-

cation between those who theorize how dentistry should be practised and those who actually do practise and know how dentistry should be practised.

You display an alarming lack of responsibility to the profession at large by writing in this style. You will not achieve anything positive by way of altering the situation you complain about unless the facts are presented. Why did you not identify the dental association, the city, the country and the federal minister cited? These are only basic facts that any reader has a right to know. Your complaints should be backed by all the facts; not just the facts with which you choose to support your argument.

Such an editorial is fine supportive material for the leftist politicians, labour leaders, social workers, and others who call for the socialization of dentistry.

Dentists in Canada belong to the Canadian Dental Association on a compulsory basis, but they should not have to tolerate material in their own Journal that is essentially unsubstantiated opinion based on local experience, magnified as a national problem and circulated for the world to see as evidenced by the reprinting of this article in the March *Journal of the American Dental Association*. This is in effect supporting and helping to pay for our own destruction.

Your editorial accents the growing rift in communication between the theoretical and bureaucratic dentists and the practical or performing dentists. Most dentists are honest hard-working individuals, who perform well and render a service that is generally unappreciated and undervalued by a public that is 30 years, at least, behind the profession in its understanding of dentistry.

Your editorial is characteristic of many that have appeared over the years in this publication which periodically and pompously calls itself the "Voice of Canadian Dentistry." Many of the editorials convey criticism of practising dentists, a readiness to discuss and arrive at conclusions on a semi-mystical basis rather than facts, implied fear of impending control and restrictions (never clearly defined), and a willingness to be subservient to government at all levels.

The C.D.A. Journal is not the "Voice of Canadian Dentistry." It does not reflect the views of Canadian dentists. In posturing to this effect a serious rift is bound to develop in the structure of the C.D.A. How long will members tolerate the publication of articles that convey an inaccurate, factless picture of Canadian dentistry? How long are we to tolerate the publication of material that will be ammunition to be used against the entire profession?

Perhaps part of the problem lies in the fact that the C.D.A. has for 20 years functioned with too much authority and policy-making concentrated in the hands of a few who are out of touch with the realities of modern dentistry.

Certainly the facts omitted from the editorial should appear. There must be better

liaison between the active segment of the profession (i.e. the producing dentist) and the theoreticians. Local problems must be interpreted and treated as such; not magnified out of all proportion to smear the image of Canadian dentistry at home and abroad.

Finally, there must be a redefinition of the role of the C.D.A. in Canada. There must be closer direction and scrutiny of policy and decisions emanating from Toronto. These changes and such a redefinition must come soon if the C.D.A. is to remain as presently constituted.

Perhaps it is time to consider seriously the advantages of voluntary membership in the C.D.A. on an individual basis, instead of the present compulsory membership and financial support extracted by the existing corporate membership structure.

Perhaps it is time to consider seriously the advantages of stronger regional influence in dental affairs by autonomous corporate members instead of through the present central group which does not, and cannot, in its present state reflect the views of the producing dentists.

P. L. Samis, D.D.S.,
1509 Sherbrooke St. W., Montreal, P. Que.

To the Editor:

I am directed by the Executive Council of the College of Dental Surgeons of the Province of Quebec to express officially its disapproval of the editorial, "Storm Warning," in the January 1965 issue of the *Journal of the Canadian Dental Association* and, unhappily, reprinted in the March 1965 issue of the *Journal of the American Dental Association*.

The objection is directed towards the editorial's opening sentence which describes a situation "in one of the nation's largest cities."

As Montreal falls within this category, indeed the largest Canadian city, many readers may suspect that it is the city given notoriety by the editorial. This false impression becomes more widespread with the A.D.A.'s reprint of the editorial, as Montreal is well known internationally. Yet Montreal does not deserve to be involved in this charge.

The facts about Montreal are these: in my post at the College, I receive all complaints from the public. Their average number never exceeds three or four a week — a far cry from the 40 daily or 8,000 annual complaints reported in the editorial.

Our Executive Council is sensible of the excellent work you are doing as editor of our national Journal and feels that the unfortunate beginning of the editorial was an accident. Furthermore, it recommends that the publication of this kind of statement should be limited to provincial bulletins.

R. M. Le Blanc,
Registrar-Secretary,
College of Dental Surgeons of the
Province of Quebec.

The Editor replies:

We are well aware that this editorial dealt with a sensitive topic. It has understandably attracted considerable response from the profession — both critical and favourable.

The editorial was based on factual information supplied by an official of the dental society concerned. The introductory sentences were deliberately worded so as to startle and attract readers without disclosing the source of the information and thereby causing embarrassment to the official or society concerned. Therefore this information, except for the published details, is confidential. But the problem which the editorial discusses is no "local experience magnified as a national problem." It is one that has repeatedly engaged the attention of C.D.A. councils and committees in recent years. Its existence is further substantiated by a letter to the editor from the chairman of the Council on Ethics, published in the June 1964 Journal, in which Dr. McGuigan wrote, "Numerous complaints of unethical behaviour are being brought to the writer's attention. The most prevalent grievances concern extraordinary fees charged for some dental services and the referral of patients originally referred to specialists for special services or emergency treatment."

One detects from the tone of certain correspondents' letters a desire to curb the editor's freedom to comment on political or controversial issues. This raises the question: does the editor have the right to comment on such issues? The answer is, of course, he

does. That is one of the reasons, or should be one of the reasons, why he was selected as editor. An editor who avoids all comment on so-called political or controversial questions lacks one of the essential qualifications of an editor, which is to focus attention through the written word on the important issues of the day and to help form opinions through his editorials. Admittedly, this does not confer on an editor the right to contest every official policy or to contradict every decision that his association has taken. But the editorial, "Storm Warning," neither contradicts any existing policy nor does it purport to pronounce new policy. Quite to the contrary, it upholds the intent of paragraph (d), clause IV of the C.D.A. Code of Ethics which states: "The dental profession should safeguard the public and itself against dentists deficient in moral character or professional competence. Dentists should observe all laws, uphold the dignity and honour of the profession, and accept its self-imposed disciplines. They should expose without hesitation illegal or unethical conduct of fellow members of the profession."

We can well appreciate the mixed feelings engendered by this particular editorial. Our profession naturally wishes to be held in high public esteem; therefore it hurts to learn that all is not as we might wish. It would indeed be easier to compose editorials that are uniformly laudatory of the profession; but this would give readers a distorted image. If we can enjoy the gratification that comes from deserved praise, can we not also accept occasional self-examination without flinching from reality?

Oh wad some power the giftie gie us
To see oursel's as others see us!
It wad frae monie a blunder free us,
An' foolish notion.

—Robert Burns

Technique and Treatment with the Light-Wire Appliances

J. R. Jarabak and J. A. Fizzell. St. Louis, Mosby, 1963. 750 p. Illus. \$23.75

The book is divided into two sections comprising of six chapters in each section. The first section deals with theory and the second section deals with the practical application of light differential forces in clinical orthodontics.

Some basic concepts of analytical mechanics and the application of mechanics to orthodontic force systems are discussed in the first two chapters of section 1. The third chapter deals with the strength of materials as applied to wires and the forces developed by these active elements. The fourth chapter lists a step-by-step procedure for fabrication of the various helical spring components used by the authors in their technique. This is well illustrated with actual photographs of the various stages of development of the final configuration of the helical loop components. The fifth chapter begins with a discussion of diagnostic aids, such as intra-oral radiographs, cephalometrics, cast analysis, intra-oral and facial photographs, and concludes with a discussion of the functional movements of the mandible and a visual appraisal of the extra-oral environment. In the last chapter of the first section the biophysical considerations of orthodontic forces are presented. The functions of the periodontal ligament are reviewed, as well as the effect orthodontic forces have on the periodontal ligament during various tooth movements. Root resorption is discussed with specific reference to the duration of forces, continuous versus intermittent forces, force magnitude, and appliance rigidity.

The first chapter of the second section deals with practical application of the technique and describes the specific design of the various helical vertical loop springs and the special brackets which are employed. In the next four chapters the treatment of four groups of malocclusions is presented. Angle's classification is applicable to the first three groups and the fourth group is termed "unusual" malocclusions. Thirty-three case studies are comprehensively dis-

cussed including case analysis, treatment objectives and methods, and results achieved. In the final chapter the controversial subject of retention is reviewed. Anatomy of the crown, overbite and overjet, axial inclination of the mandibular incisors, root paralleling, equilibration, and the usual mechanical devices and the effects these factors play in retention are presented.

All of the subject matter is comprehensively illustrated with excellent line drawings and photographs. Each chapter is followed by a list of references and suggested reading. This volume is a valuable reference to the orthodontist who is familiar with the technique, stimulating and informative to those using other techniques, and a worthwhile addition to any orthodontic library.

Z. Michael Pawliuk

Matériaux et alliages dentaires

J.-N. Nally. Paris, Julien Prélat, 1964. 198 p. Broché F 32.00, Relié toile F 38.00

Cet ouvrage concernant les matériaux et alliages dentaires traite d'une façon précise, agréable et presque parfaite des diverses substances à la disposition de l'omnipraticien. La présentation soignée a tout de suite attiré mon attention.

Quoique tous les matériaux en usage présentement n'y soient pas discutés, ce traité demeure tout de même un élément de base indispensable à tout les dentistes soucieux d'améliorer la manipulation des produits mis à leur disposition. Cela peut aider grandement à apprécier d'une façon scientifique la valeur des produits fabriqués.

Pour un étudiant, ce livre ne peut que lui ouvrir des horizons nouveaux sur la recherche et l'expérimentation des matériaux dentaires. Un autre bon point à signaler, c'est l'apport d'une terminologie utilisable par les gens francophones. De plus, il est facile de constater parmi les auteurs cités dans la bibliographie des noms reconnus et appréciés pour leur application en recherches dentaires.

Camille Patenaude

Pin reinforcement in restorative dentistry

G. A. Zarb,* B.Ch.D. (Malta), D.D.S., M.S. (Michigan),
Toronto, Ontario

Pin reinforced amalgam may be utilized to build foundations for cast crowns, porcelain jackets, bridge abutments, as well as for large functional amalgam restorations, including replacement of the entire clinical crown. Pins may also be used to provide retention for amalgam and silicate when the classical outlines of retention form are not possible.

L'amalgame à crampon peut être utilisé dans la fabrication des bases de couronnes coulées, coiffes en céramique, piles de ponts aussi bien que pour les grandes obturations fonctionnelles d'amalgame. Les crampons peuvent être aussi utilisés pour la rétention d'amalgame et de silicate quand une forme classique d'obturation n'est pas possible.

The difficulty of achieving adequate retention and resistance form for permanent restorations when insufficient tooth tissue remains has led to the sacrifice of many potentially useful teeth. The advent of high-speed cutting devices has greatly facilitated the removal of tooth structure allowing the dentist more time to devote to the restoration itself. This has led to renewed interest in methods of preserving badly mutilated teeth.

Some dentists at first tried to solve the problem by resorting to surgical reduction of gingival tissue in order to increase the length of the clinical crown. This, of course, proved to be no panacea. It was Markley who in 1958 advocated the use of silver amalgam reinforced with threaded stainless steel pins.¹ Markley's method facilitates the attainment of ideal preparation forms in restorative procedures. The minimum requirement is a vital or endodontically treated root that is adequately supported by bone of the alveolar process. The degree of mutila-

*Demonstrator, Faculty of Dentistry, University of Toronto, and dental surgeon, Toronto General Hospital.



FIGURE 1 Distal cusp of an upper right first molar reinforced with a pin amalgam restoration.

tion of the problem tooth is no obstacle.

Pins may be used in the placement of large intracoronal amalgam restorations (Figure 1), and for construction of amalgam cores upon which extracoronal castings are to be placed (Figures 2-7). The retention of silicate or acrylic restorations is also enhanced by the use of pins. This applies to restorations for children's fractured anterior teeth, and the reconstruction of incisal angles and large carious gingival areas.

Markley's technique has been used extensively with apparent success. Its clinical application entails the attachment of dental amalgam with a compressive strength of 40,000 to 50,000 lbs. per sq. in., to dentine which has an ultimate compressive strength in the range of 40,000 to 44,000 lbs. per sq. in. The proximity of these ranges indicates that amalgam is eminently satisfactory in terms of compressive strength. But when classical retention form is absent, amalgam's related tensile strength is inadequate, thereby necessitating the use of stainless steel pin reinforcement.

The required materials are .025 inch threaded stainless steel wire, a .027 inch twist drill, and a spiral lentulo (corkscrew shaped filling instrument) (Figure 8).



A thorough knowledge of dental anatomy is requisite. One must be alert for tilted teeth, pulpal position, bifurcations, cervical constriction, and root surface concavities. The dentist must visualize the image of the completed preparation before he cuts the pin holes. All the steel rods must be located within the future tooth structure substitute. Penetration into the pulp chamber of vital teeth and perforation into the periodontal tissues must be avoided.² Should pulpal perforation occur, the amount of the clot within the pin hole is limited by introducing a sterile paper point to a predetermined depth followed by the insertion of a small amount of calcium hydroxide. The calcium hydroxide should not be introduced prior to evidence of clotting. A twist drill, unlike a bur, does not apparently overtly disturb the pulpal tissue by engaging and tearing it. Calcium hydroxide will effectively correct this error in the great majority of cases provided it is separated from the pulp chamber proper by a small plug of clot. If the periodontal tissues are perforated,

the ensuing haemorrhage is controlled with adrenaline saturated paper points. Healing is usually uneventful. All previous restorations and zinc phosphate cement are removed, and the pins are placed only in sound dentine. The pins are not inserted in parallel planes. In fact, slight angulation of their axial inclinations enhances retention of the amalgam. During cementation the pin should be levelled off against the side of the tooth if accessible. Otherwise the depth is estimated and checked with a radiograph prior to cementation.

The number of pins required depends on function, the remaining tooth tissue, and the convenience form available for condensation of the amalgam. Enoch has shown that resistance of the amalgam mass to displacement in a preparation with no lateral walls increases in proportion to the number of pins.³ Moreover, the greater the number of pins used, the greater the increase in the strength of the simulated root used in his study. If the contemplated restoration requires an aesthetic veneer or a porcelain jacket crown, the steel rods must be located so as to permit a full shoulder preparation.

Pin holes are prepared to a depth of from 3-5 mm. A $\frac{1}{2}$ or $\frac{1}{4}$ round bur is used to start the opening at the desired location. This prevents skidding of the twist drill when it is subsequently applied to the dentinal surface. This drill is an end-cutting instrument that is used with gentle in-and-out pressure while revolving at low speed. Dentinal debris is periodically removed from the drill to maintain its cutting efficiency. The total depth obtainable with the twist drill is slightly in excess of 5 mm. A depth of less than 3 mm. tends to sacrifice resistance of the pin. Interestingly Enoch also showed that, all things being equal, resistance to displacement offered by a given number of pins is a function of pin depth in the preparation rather than



FIGURE 2 Broken down lower right second bicuspid requiring a foundation.



FIGURE 3 Bevelled stainless steel pins fitted into pin holes in dentine.



FIGURE 4 Fitted copper band stabilized with compound and wedges.

length of the pin projecting into the amalgam.

Approximate lengths of wire are cut with pliers. Rubber-faced pliers are preferable, since the rubber facing will firmly retain the cut portion of stainless steel wire. The ends of the wire to be inserted are bevelled. The pins are then placed in the pin holes. The wire may have to be bent in order to adapt it better within the confines of the proposed restoration. This is achieved with appropriate pliers. The pins are now checked for contour, occlusion, and removed.

FIGURE 6 Technician's view of the prepared core.

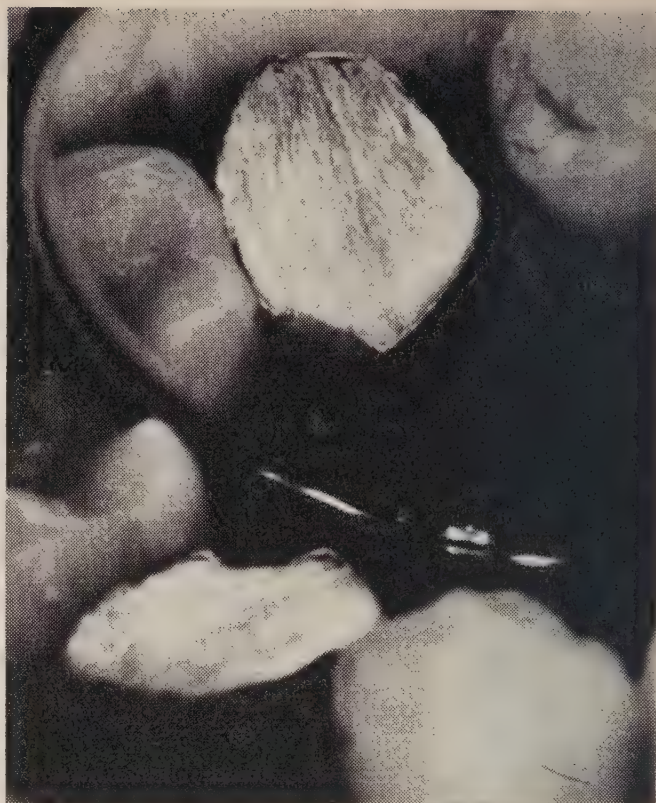
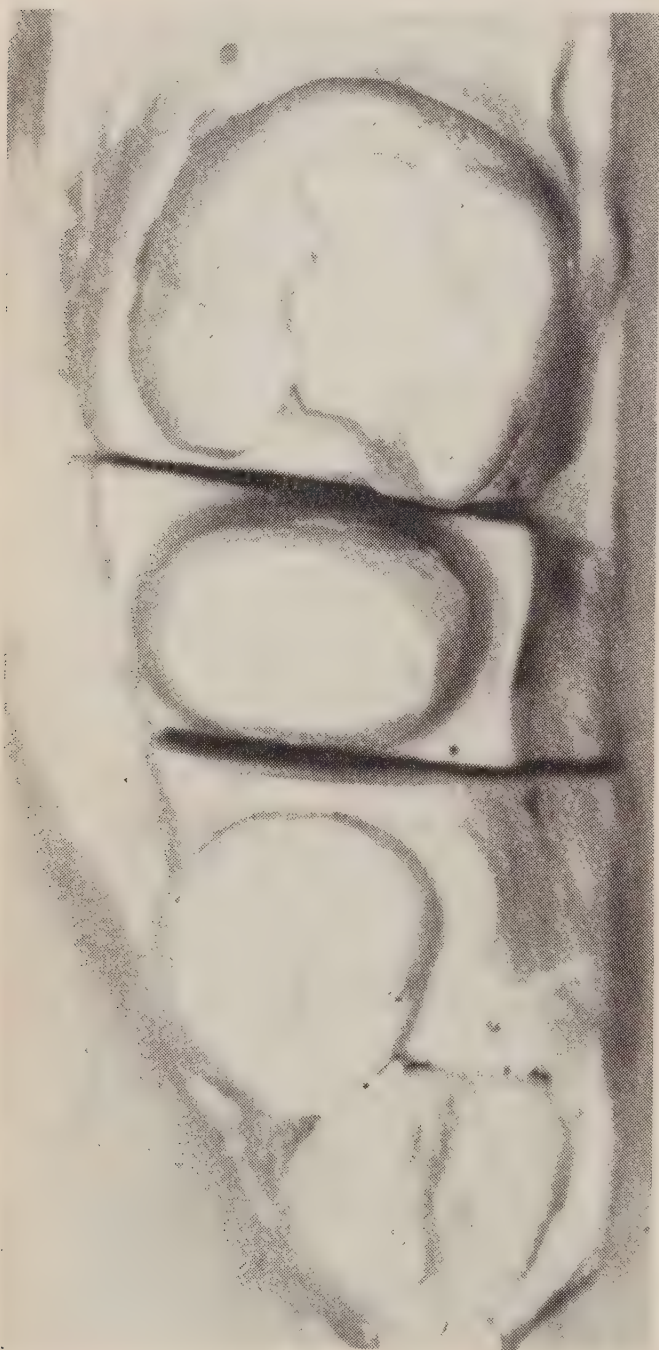


FIGURE 5 Amalgam condensed. Patient may be dismissed after checking occlusion and polishing of matrix edges.

It is convenient to stand the pins on end in soft wax, prior to cementation, so that they may be picked up in proper sequence. Otherwise, a map of the pin hole locations may be drawn on the bracket table cover, and the pins placed in circles accordingly.

The pin holes and the surrounding deep dentine are prepared with the proper medicaments and cavity liner. Cut paper points are used to carry varnish to the depth of the holes. In deep cavities, close to the vital pulp, the preferred cavity medication is applied, along with a small amount of zinc phosphate cement for insulation. The cement must be kept away from the necks of the steel rods to permit their complete envelopment by amalgam. Zinc phosphate cement is mixed with a consistency appropriate for the cementation of inlays. The cement is applied to one or more of the pins, and the holes are filled using the spiral lentulo. The point of this endodontic instrument may be reduced by some 4 mm. to make it more rigid.¹ The lentulo is rotated in a clockwise direction, either



FIGURE 7 Casting cemented into place.

at low engine speed or in the dentist's fingers. The pins are placed in their respective holes making sure they are completely seated with the bend in the proper direction. Following release of the seating force the pins tend to extrude on account of hydrostatic pressure. They must therefore be resealed to the maximum depth either with pliers or with an amalgam condenser. A small bead of excess cement surrounds each pin after the cement has set. This is removed prior to condensation of the amalgam.

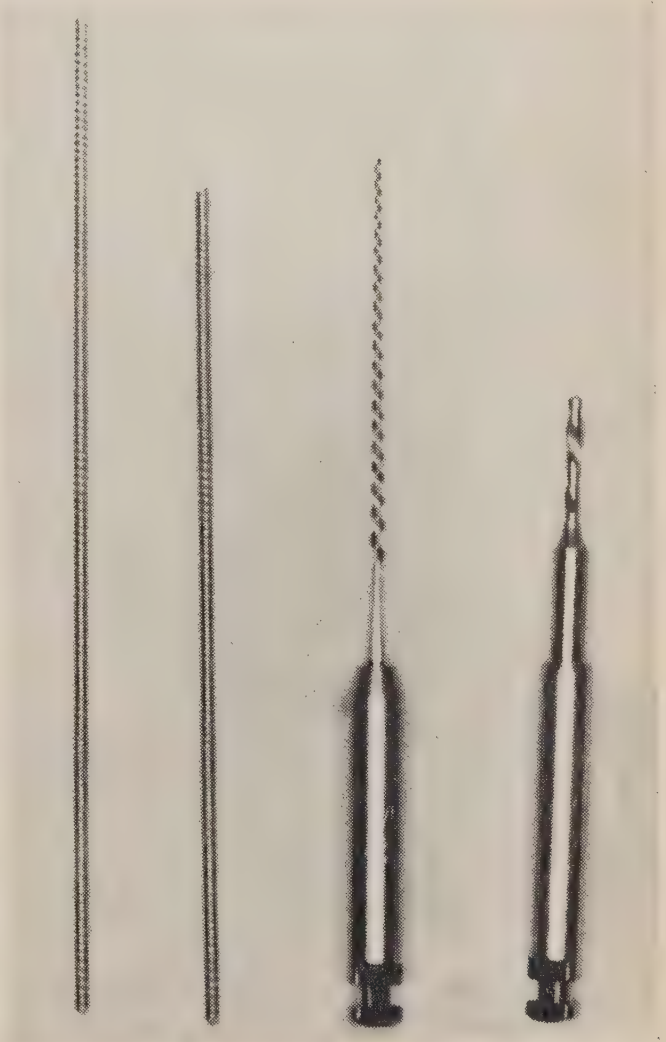
An amalgam matrix band is tailored from a piece of stainless steel matrix material, a preformed strip, or a copper band. The matrix may be wedged with wood and supported with compound to aid adaptation and stability. Condensers are tested to establish their suitability for condensation around the pins. Amalgam is carefully packed between the threaded rods using a small condenser initially and completing the packing with broader ones. Following matrix removal, the amalgam is carved to the desired anatomical form. If the amalgam restoration is to serve as a reinforced core for a full crown preparation, it can be pre-

pared and finished at a later date, and the patient may be dismissed with the matrix still in place.

If the matrix band has to be masked, its labial or buccal aspect may be covered with a temporary stopping material such as Duraseal. This aesthetic veneer is locked interproximally to enhance retention. At the subsequent appointment it is essential to ascertain that no overhanging margins are present. Preparation of the reinforced core may be carried out with diamond burs at high speed. Use of a carbide bur near a steel pin tends to produce chipping of the amalgam.⁴ The finishing line of the extra-coronal restoration should preferably end on tooth tissue.

A pin reinforced restoration strengthens an endodontically treated tooth and prevents splitting of the root. If the root

FIGURE 8 Required materials: two pieces of 0.025 inch threaded stainless steel wire, spiral lentulo, 0.027 inch twist drill.



canal filling is of gutta-percha, a stainless steel rod of appropriate size and diameter is placed in each canal. Such steel rods are obtained from orthodontic supply sources. No. 4 or No. 6 round burs are used to effect penetration for .050 and .058 inch steel rods respectively. A root canal that contains a silver point is left undisturbed. It is my conviction that a pin amalgam core offers greater resistance to displacement than a custom-made dowel core or a prefabricated core and dowel. Furthermore, it permits greater latitude in the employment of porcelain jacket crowns with their obvious aesthetic and hygienic advantages.

When a badly broken-down tooth also requires endodontic treatment, provision must be made for (1) a pathway into the root canal, (2) a leak-proof temporary restoration that will also permit isolation of the tooth under a rubber dam, and (3) a foundation for the eventual restoration. The above technique, with minor modifications, fulfils all of these requirements. A petrolatum-coated gutta percha point is inserted into the root canal opening to prevent amalgam from being packed into the canal. Next, the pins are placed, the matrix fitted and retained, and the amalgam condensed. The gutta percha point is removed, and endodontic treatment is performed. The opening may be sealed with a temporary zinc phosphate cement.

Strategically placed teeth that are fractured below the crest of the alveolar process need not necessarily be sacrificed. If a sufficient length of root remains supported by bone, it may be expedient to retain these teeth and possibly splint them to stronger neighbouring teeth. The application of periodontal surgical tech-

niques, pin amalgam reconstruction, and endodontic treatment facilitates the preservation of such teeth.

Whenever aesthetic filling materials are employed to restore the incisal angle in class IV cavities, retention of the material is significantly enhanced by placing one or more pins in the cervical floor of the preparation. Occasionally, especially in the restoration of children's fractured anterior teeth, it may be feasible to include a pin in the incisal dentine. The frontal aspect of the pin must then be masked with a calcium hydroxide (Dycal) or zinc-oxide eugenol (Cavitec) compound for aesthetic purposes.

SUMMARY

Pin reinforced amalgam may be utilized to build foundations for cast crowns, porcelain jackets, bridge abutments, as well as for large functional amalgam restorations, including replacement of the entire clinical crown. Pins may also be used to provide retention for amalgam and silicate when the classical outlines of retention form are not possible.

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Use of general anaesthesia for restorative dentistry

General anaesthesia facilitates the provision of routine dental care in certain selected young children and adults. Inhalation analgesia permits the dentist to inject local anaesthetics in apprehensive children. Inhalation induction or rectal-plus-inhalation induction can be used for children who require more prolonged general anaesthesia. Nitrous oxide-oxygen-halothane or nitrous oxide - oxygen - methoxyfluorane combinations are most effective for achieving general anaesthesia in adults. For more prolonged anaesthesia this combination may be modified by the addition of pentobarbital or meperidine.

L'anesthésie générale facilite les soins dentaires chez certains enfants et adultes. Une inhalation analgésique permet au dentiste l'injection d'un anesthésique local chez les enfants craintifs ou appréhensifs. L'induction par inhalation ou l'induction rectale combinée avec l'inhalation peuvent être employées chez les enfants nécessitant une anesthésie générale plus prolongée. Les composés de protoxyde d'azote-oxygène-halothane ou de protoxyde d'azote-oxygène-methoxyfluorane sont des plus efficaces pour obtenir une anesthésie générale chez les adultes. Dans les anesthésies plus prolongées des substances adjuvantes telles que la mépéridine ou le pentobarbital peuvent être utilisés pour sa modification.

General anaesthesia is a controlled, reversible, irregular paralysis of cells of the central nervous system.¹ A liberal interpretation of this definition allows us to include various degrees of sedation and analgesia in the following discussion. Many patients who will not submit to dental treatment in the conventional manner only need a slight depression of

their inhibitions to convert them into ideal dental patients. This may be accomplished by the administration of moderate doses of barbiturates, narcotics and tranquillizers prior to treatment.

The use of general anaesthesia is predicated on the extent of the required treatment as well as the individual patient's needs.

EXTENT OF TREATMENT

Many patients decline extensive dental treatment because of a reluctance to accept the numerous appointments required to complete the necessary dental operations or because of the discomfort associated with prolonged, repetitive therapy. Treatment under general anaesthesia is a useful alternative in such cases.

THE PATIENT

Young Children.—Some young children resist dental treatment, particularly if several appointments are needed to complete the treatment. The child may co-operate at the first appointment. He may be slightly restless at the second appointment. He may be quite difficult to handle at the third appointment, and it may be impossible to render treatment at the fourth appointment in the absence of physical restraint. Such children can often best be handled under general anaesthesia. The conditions for treatment are thereby greatly improved. This, in turn, facilitates the provision of high quality care. Relatively little maintenance treatment is required thereafter, and this can usually be accomplished under local anaesthesia with the child's complete co-operation.

Apprehensive Adults.—Many people still fear the prospect of dental care.² As a result they defer treatment even though they realize the need for it. When such patients finally do seek dental care they present a definite problem to the dentist. Very often, no matter how patient and gentle he may be, the co-operation of the patient is such that treatment cannot be performed as well as the patient and dentist desire. General anaesthesia can be used to great advantage with this type of patient. It allows us to treat to the best of our ability and simultaneously converts the treatment into a relatively pleasant experience for the patient.

Mentally Retarded Patients.—Because of the problem of communication, it is difficult to convey to the retarded patient what the dentist is trying to do. In the

absence of co-operation, general anaesthesia may offer the sole solution to the provision of dental treatment for retarded patients.

CONTRA-INDICATIONS TO GENERAL ANAESTHESIA

Many patients request general anaesthesia because of alleged earlier unpleasant experiences with local anaesthesia. Many of these individuals can be converted into co-operative dental patients if the dentist is willing to take the time to explain that local anaesthesia can be successfully utilized in all areas of the mouth. A low zygomatic process or very dense bone may cause occasional difficulty, but these problems can be mastered by meticulous attention to detail, coupled with nerve block and infiltration anaesthesia.

When general anaesthesia is considered essential, it is necessary to evaluate the patient's general medical condition before proceeding. For this purpose Monheim classifies patients as:¹

Class A: Patients between the ages of six and 60 years who are free from organic disease or patients in whom ordinary physical activity does not cause undue fatigue or dyspnoea. This includes patients with well-compensated valvular heart disease except when associated with hypertension or syphilis.

Class B: Patients under six and over 60 years of age, regardless of health status. Also patients with an impairing organic disease, but who compensate well and thus do not manifest more than first degree circulatory depression.

Class C: Patients with organic disease or circulatory depression who represent a calculated risk for anaesthesia.

Class A patients and many class B do not present an increased anaesthetic risk. General anaesthesia can be utilized for these patients if required. It is seldom desirable to subject a class C patient to general anaesthesia in order to perform restorative treatment.

General anaesthesia is not advisable for patients who have a history of coronary heart disease. But sedation combined with local anaesthesia is safer for these pa-

tients than local anaesthesia alone. If the patient is precipitated into an excitable stage during the course of treatment, the consequent release of catechol amines (adrenaline and nor-adrenaline) into the circulation could impose sufficient extra load on the heart to precipitate a 'heart attack.' In most cases mild sedation will prevent this complication.

The following anaesthetic techniques advocated by the Department of Anaesthesia, University of Toronto, have been found useful:

GENERAL ANAESTHESIA FOR CHILDREN

1. Some children fear injections but do not object to other aspects of treatment. For these children excellent results can often be obtained by carrying a nitrous oxide induction to a plane just short of the excitement stage. The jaw is then opened with a mouth prop, the necessary local anaesthetic injections are given and 100 per cent oxygen is administered until the child regains consciousness. Induction, injections and re-awakening of the patient usually occupy four to five minutes. The dentist may then proceed with treatment.

It is sometimes beneficial to maintain the nose-piece in position throughout the appointment and allow the child to breathe a mixture of 25 per cent nitrous oxide and 75 per cent oxygen while treatment is being performed.

There is almost no recovery period following this anaesthetic procedure and usually the child can leave the office immediately provided he is accompanied by an adult.

2. Induction with nitrous oxide-halothane or nitrous oxide-methoxyfluorane (Penthrane) is usually the method of choice for children who require general anaesthesia. In children this form of anaesthesia is preferable to the 'needles' associated with intravenous induction.

Immediately following the induction atropine is administered intravenously to inhibit vagal reflex response and produce a dry operating field. Then the mouth is opened and an oro-pharyngeal partition placed. This partition (1) prevents debris from falling into the pharynx from where

it could be aspirated; (2) encourages nasal breathing so that anaesthesia can be maintained via the nasal mask; and (3) holds the tongue forward thus maintaining a patent airway.

A nasopharyngeal airway is introduced if breathing is obstructed or if excessive mouth breathing occurs. A gum rubber airway minimizes any chance of trauma upon insertion. A hard tube occasionally produces a haemorrhage which can be very difficult to arrest.

A local anaesthetic is then administered to eliminate operative stimuli and thereby permit maintenance in a very light plane of anaesthesia. For this purpose 3 per cent mepivacaine (Carbocaine) is effective when using halothane. This preparation does not contain adrenaline. Halothane and adrenaline must not be used together to avoid sensitization of the myocardium and resulting arrhythmia and occasional ventricular fibrillation. When methoxyfluorane is substituted for halothane, however, it is permissible to use small quantities of adrenaline such as occur in local anaesthetic solutions.

From this point on a free airway is guaranteed as long as the chin is supported and a proper plane of anaesthesia maintained.

Endotracheal tubes are rarely needed. There is no excuse for subjecting a patient to the dangers of endotracheal intubation simply to avoid having to support the chin. Monheim outlines the dangers of intubation as follows:¹ "(1) The plane of anaesthesia and degree of muscular relaxation must be greater for intubation than for the procedure for which it is done. (2) There is the possibility of trauma to the teeth, soft tissues and vocal cords. (3) The greatest risk . . . is laryngeal oedema. A child's larynx and trachea are smaller than an adult's. Therefore any oedema which forms will occlude a relatively larger cross-sectional area of the airway. The margin of safety therefore is narrower for children."

The factors chiefly responsible for post-intubation oedema are (1) infection, either already present in the upper respiratory tract or introduced by a tube which is not clean; and (2) trauma resulting from difficulties in accomplishing intubation and/or from periods of 'bucking' on the

tube. (Bucking refers to choking on the tube. If anaesthesia becomes too light, the laryngeal reflexes are activated and the patient actually jumps or 'bucks'.)

3. Some children object to application of the face mask during induction. Other children are so hysterical upon entering the office that a gas induction could only be accomplished under forcible restraint. In such cases it is beneficial to induce a light sleep prior to the operation by means of rectally administered sodium thiopental (Pentothal). Monheim¹ recommends a dose of 13.3 mg. per pound of body weight for this purpose. Young children are used to having their temperatures taken rectally and usually do not object to this procedure. Full effect is obtained in about ten minutes. The child is carried to the operating room where the induction is completed as previously outlined with nitrous oxide-oxygen-halothane or methoxyfluorane, followed by atropine and local anaesthesia.

GENERAL ANAESTHESIA FOR ADULTS

1. Sedation plus Local Anaesthesia.—Many adults who request general anaesthesia for dental treatment do not need a complete general anaesthetic. The anaesthetist should first try to gain the patient's co-operation by using sedative drugs to allay fear and apprehension and simultaneously raise the pain threshold. Then local anaesthesia is utilized. In most cases this is all that is necessary and the operation can be completed under conditions ideal for both patient and dentist.

Sedation is best accomplished via the intravenous route since the effects can be immediately observed and the correct dosage for each individual can be more easily controlled.

The effects of intravenous sedation can be enhanced, if desired, by having the patient breathe a 50:50 mixture of nitrous oxide and oxygen. This raises the pain threshold considerably and also produces an amnesic effect so that the patient remembers very little about the operation even though he remains awake and coherent at all times.

2. Complete Short General Anaesthesia (up to half an hour).—Intravenously administered atropine with nitrous oxide-oxygen-halothane is the combination of choice since the induction is fast and pleasant and the recovery is rapid.

Many patients, however, dislike the sensations associated with inhalation induction and prefer intravenous induction. Short-acting barbiturates like sodium thiopental or methohexital may be used for this purpose but theoretically are best avoided.³

Thiopental possesses numerous disadvantages: (1) Cerebral oxygen consumption is lowered due to interference with cerebral cellular oxygen utilization. This occurs even when arterial oxygen levels are greater than normal. (2) Respiration is depressed. (3) The myocardium is weakened. (4) There is dilatation of the vascular bed. Weakening of the myocardium and vasodilatation have a cumulative effect that tends to lower the blood pressure. (5) There is very little depression of the parasympathetic nervous system and therefore laryngospasm is fairly common. Bronchospasm can also occur. (6) Thiopental is slowly metabolized (10-15 per cent per hour). The drug is first absorbed from the plasma and stored in fat cells. From here it is transferred to the liver where it is metabolized. Therefore there is an initial quick awakening from thiopental anaesthesia, but this is followed by a prolonged recovery period.

The action of methohexital is similar to that of thiopental but less intense and of a shorter duration. Methohexital is therefore preferable to thiopental for ambulatory patients.

A nasopharyngeal airway is often necessary but endotracheal intubation is seldom needed for such short operations.

3. Complete Prolonged General Anaesthesia (exceeding half an hour).—Intravenous atropine with nitrous oxide-oxygen-halothane or nitrous oxide-oxygen-methoxyfluorane is again the combination of choice. A greater percentage of oxygen is used for prolonged general anaesthesia. Supplemental drugs are often added to reduce the concentrations of halothane and methoxyfluorane. They should be administered prior to the induction. Pen-

tobarbital (nembutal) and meperidine (Demerol) are used for this purpose. Local anaesthetics are also employed to diminish operative stimuli.

Pentobarbital produces successive sedation, hypnosis, analgesia, anaesthesia and respiratory depression depending on the amount injected and the rate of injection. Moderate doses greatly aid in the production of general anaesthesia. Dosage is estimated on the basis of 1 mg. per pound of body weight, but, as with all anaesthetic agents, some individuals are more resistant to the drug whereas others are highly susceptible. The dosage must therefore be altered according to the needs of the individual patient. Intravenous injection permits observation of the drug's effects and is therefore the route of choice. Pentobarbital is preferable to thiopental as a supplemental agent since it is rapidly and completely eliminated (in four to five hours) and does not produce cumulative effects. Also, the patient wakes up less confused than after thiopental and there is less laryngeal irritation.³

Meperidine is useful because: (1) the pain threshold is elevated; (2) a reduced concentration of anaesthetic gases is adequate; and (3) there is a beneficial effect upon the respiratory centre. This effect converts the rapid, shallow breathing commonly associated with barbiturate-nitrous oxide-halothane anaesthesia into slower, fuller and more effective respirations.

Meperidine can be administered orally, intramuscularly, or intravenously. Intramuscular or intravenous injection is preferred. If the intramuscular route is chosen the drug should be administered 30-40 minutes prior to the induction of anaesthesia. Care must be exercised in connection with intravenous injection as there is a greater possibility of respiratory depression and/or reduced blood pressure due to peripheral vasodilatation. For these reasons the intravenous dosage should not exceed 50 mg. for an adult. In most cases 25-35 mg. are sufficient and even this should be diluted in sterile water and administered very slowly.

Pentobarbital and meperidine make it possible to carry the patient in a smooth safe plane of anaesthesia for many hours. Nevertheless, the duration of anaesthesia for ambulatory patients should not exceed two hours; otherwise a prolonged recovery period would result. It is advisable to schedule more than one appointment if more than two hours are necessary to complete the treatment.

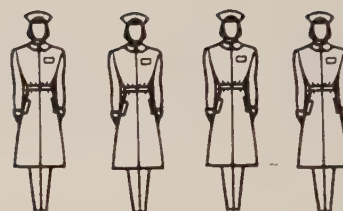
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Among many benefits to its members, the Canadian Dental Association sponsors guaranteed pension and life insurance plans, a retirement savings plan, a group hospital-medical-surgical-extended health care plan, a group sickness and accident plan, and a group office overhead insurance plan. Why not write for further details to C.D.A. Pension and Insurance Plans, 2249 Yonge Street, Toronto 7, Ontario.

Dental hygiene in Canada: past, present and future



F. H. Compton, D.D.S., D.D.P.H., Toronto, Ontario

Eleven years ago the first five graduates of Canada's initial dental hygiene training program took up their occupation. This is therefore an opportune time to review some of the events of the past, to assess the present position, and to look at some impending developments in the future.

A product of North American dentistry's concern for preventive as well as corrective care, the dental hygienist developed in response to a need for educational and preventive services in private practices and in schools. The dental hygiene movement originated in the United States early in the present century and made rapid headway in that country. That dental hygienists did not come to Canada until almost 50 years later is due in some measure to factors linked with our country's participation in two major world conflicts and to the severe economic upheaval associated with the great depression of the 1930's. These events slowed the development of Canadian dentistry. They retarded the orderly expansion of our dental schools. They delayed a necessary in-

crease in dental manpower commensurate with an expanding population. And they account in large measure for the present deficit in our national inventory of dental personnel. To this one must add that it is not sufficient to train dental hygienists without assuring them a reasonable outlet for their services. Dentists and public health agencies first had to learn how they could utilize dental hygienists. This takes time. Even now there are only 165 dental hygienists in practice throughout Canada. More than two-thirds of this number are in Ontario and Alberta. There are only 19 in Quebec and in the Atlantic Provinces. Part of the explanation is that for 10 years the University of Toronto had the only school of dental hygiene—from 1951 to 1961. Three years ago similar schools were established at Dalhousie University and the University of Alberta. A fourth school was started at the University of Manitoba last year. When these four schools operate at full capacity, their combined output will be about 100 new dental hygienists each year.

So much for past history. What about the contemporary setting of the dental hygienist? What services does she currently perform? Where is she employed and by whom?

Delivered at the first annual meeting of the Canadian Dental Hygienists Association, Edmonton, June 29, 1964.

Available information indicates that most dental hygienists now employed in private practice spend a portion of their time giving prophylaxes to adults. The remainder of their time is devoted to patient education, topical application of anticariogenic agents, or assisting with radiographic examinations. Public health employment offers a variety of additional duties and also opportunity to assume responsibility for selected phases of the dental public health program. There are at least three distinct public health settings where the dental hygienist may be employed to advantage: in the child health centre or the well-baby clinic, in preschool registration, and in the school. For example, she participates with physicians and nurses in providing health supervision for infants and preschool children at well-baby clinics. Here she screens the children and counsels and assists the parents with initiating professional dental supervision and maintenance care. In the spring she collaborates with school nurses and school officials in health screening and registration of children about to enter kindergarten in the fall. This is the annual preschool registration or preschool round-up. She may also be responsible for dental screening inspections within a group of schools, and for arranging any necessary treatment through private practitioners or public clinics. She is often called upon for individual counselling or group instruction of school children. Teachers and nurses automatically turn to her for guidance and consultation in respect to dental problems affecting individual children or entire families. In addition to these varied tasks she may be asked to participate in topical application of anticariogenic agents for selected children. These are but a few examples of the work of the dedicated young women who serve the dental needs of their patients and their communities in private offices, city health departments and in rural health units throughout our far-flung land.

But your task and ours is an enormous one: that of providing adequate dental health services to 19 million Canadians. Each year the average Canadian dentist gives treatment to about a thousand pa-

tients. This means that Canada's 6,000 dentists treat about six million Canadians each year—roughly one-third of the population. The other 12 million people, who receive little or no dental care, are becoming increasingly critical of this situation. They feel just as entitled to the benefits of good dental care as their more fortunate fellow citizens. These people will not indefinitely tolerate a second-class status insofar as dental health is concerned. That the causes of their predicament are rooted in history is quite immaterial to them. They are simply aware of the fact that dental services are not available to them. They say to us: "You have the knowledge and the skill; we have subsidized your education to help provide such knowledge and skill; we have granted you the right to practise; we look to you therefore to see that our needs are met." True, we dentists may possess knowledge and skill, but that is not enough. As more and more people become aware of the benefits of good dental care it becomes abundantly clear that there are simply not enough of us to provide the needed care. The shortage of dentists is perhaps more evident in some areas than in others and might even escape the notice of the casual observer. But anyone at all familiar with current events is aware of this problem and appreciates that overall this situation will deteriorate unless ways and means are found to expand the dental work force.

The supply of dental treatment, as we now understand it, depends on the number of practising dentists, their working time, their productivity, their progressiveness and their efficiency. All of this, in turn, depends basically on the number of students entering and graduating from our dental schools. In the past dentists attempted to keep pace with population increases and increased demand for services by working harder, by using more dental assistants, dental laboratory technicians and dental hygienists, by obtaining better equipment, and by improving their practice techniques. Up to now these measures have served to keep the supply of dentists and the actual demand for care within some sort of balance. But they cannot be expected to meet the new

demands expected of a rapidly increasing population during the next 20 or 30 years. More people should be served by each dentist and this can only be done by increasing the number of hands he has. In other words, there should be a marked increase in the number of dental auxiliaries used in practice.

Any future plans for increasing the supply of dental services must obviously be concerned with increasing the number of suppliers. But important as increasing the number of dentists may be, the full contribution of any additional dentists will not be realized merely by increasing their numbers. Future increases in productivity will be difficult to attain without a major shift in the use of auxiliaries.

At present, dental hygienists are the only type of dental auxiliary personnel trained and licensed to perform dental operations for patients under supervision. Many studies already confirm the fact that conventional dental hygienists recruited to the staff of an office or clinic increase the amount of service that can be rendered. It would seem logical, therefore, to consider extending the scope of their services with a view to relieving the dentist still further of time-consuming, and therefore expensive, procedures he is now required to perform for his patients. A reasonable limitation would lie with the exclusion of those duties that require the scientific knowledge of the fully qualified dentist. This encompasses diagnosis, treatment planning, the cutting of hard and soft tissues, the administration of drugs and the making of prescriptions. Clearly, any additional services the dental hygienist or new auxiliaries are expected to render would have to be included in a prescribed program of education. Provided ample care is taken to ensure that the type of service demanded of them does not exceed their capabilities as indicated by their training, and provided they are supervised by a fully qualified dentist who retains full responsibility for the patient's welfare, there is every reason to expect that these dental hygienists could perform a very valuable service for the people of Canada.

Interestingly, the Royal Canadian Dental Corps has demonstrated during the past

four years that its clinical technicians—the military equivalent of civilian dental hygienists—can be trained to perform a variety of additional technical procedures within a reasonable period of time. These include: application of the rubber dam; selecting, contouring, placing and removal of matrices; packing, carving and finishing amalgam restorations; placing and finishing silicate and acrylic restorations; placing, carving and finishing various types of temporary cement; making impressions for study casts and for prosthodontic working models; registering simple inter-occlusal records; tooth shade selection; and placement of periodontal packs. When clinical technicians with this advanced training were integrated with other dental personnel productivity was markedly increased.^{1,2} Admittedly, this experience relates to a military setting that may not have its exact counterpart in civilian practice. Nevertheless, there is no reason to doubt that dental hygienists cannot be trained in a reasonably short time to perform similar services and to perform them well.

The only real objection to such a course would stem from the diversion of dental hygienists from educational and preventive services to treatment. It would be wrong to expect that treatment, on whatever scale, would solve the problem of dental health. The expansion of duties for dental hygienists or the training of new dental auxiliaries must not be undertaken at the expense of properly conceived and adequately staffed community dental health programs. It should, rather, be an adjunct to these.

And so I come to the final portion of these remarks—the future prospects of the dental hygienist. You are well aware that the Royal Commission on Health Services on June 19, 1964 made public the first of a series of reports which are the outcome of the Commission's investigation of Canada's health needs. Your future and ours will undoubtedly hinge on the extent to which federal and provincial authorities adopt and implement the Commission's recommendations.

Perhaps I should first point out that in its submission to the Royal Commission the Canadian Dental Association stressed

the vital importance of instituting preventive and control measures as a prerequisite to any expansion in the supply of treatment services.³ Stated another way, this means that we must first halt the inflationary spiral of ever-recurring dental defects and reduce demand for costly and time-consuming terminal treatment. We can then set about to transform demand for terminal treatment into demand for a more sophisticated, less costly and less time-consuming preventive and maintenance care. Without this basic change of direction, the Canadian Dental Association believes that Canada's dental resources and finances may well be consumed in an endless and hopeless attempt at patching teeth. The success of this transformation depends in large measure on public education. In this connection the Canadian Dental Association visualized an important role for dental hygienists in private practices and in well directed community dental public health programs.

I turn now to certain relevant aspects of the Report of the Royal Commission on Health Services.⁴ The Commission declares that it is particularly disturbed over the state of dental health of children and claims that children should be the first beneficiaries of an expansion in dental services. Therefore the Commission proposes that there be introduced by 1968 a program of free dental services for children using the services of dentists and dental auxiliaries. In the first year, say 1968, all children aged five and six would be entitled to dental examination and restorative services. In the second year, 1969, all children aged four, five, six and seven would be entitled to services, and in the third year, 1970, all children from three to eight. In each of the following years a succeeding single year age group would be added. By 1980, all children up to the age of 18 would be entitled to services and all children then 18 would have had regular dental care throughout their formative years.

The Commission proposes the introduction of new dental auxiliaries who will be employed solely in the children's dental program and who will work directly under the supervision of a dentist. The proposal is to train, as in New Zealand

and now in Great Britain, dental auxiliaries who are qualified to prepare cavities and place fillings in the teeth of children, under strict preclinical and clinical supervision. They would also be qualified in dental health education and able to give instruction to patients in self care.

The Commission suggests that these auxiliaries can be trained in two years, and that they can be trained in a special program provided by a dental school in adjacent quarters or in an institute of technology, supervised by a dental school faculty. The Commission estimates that at least 1,000 qualified auxiliaries will be required by January 1968 if the children's program is to begin in that year on a national basis. This number would have to be increased each year subsequently until 1,500 are graduated in 1971. In order to graduate these auxiliaries by 1968 it will be necessary to enrol the first class by late 1965.

While the children's dental program should proceed with all due speed, the Commission recognizes the insufficiency of dental personnel to meet our total needs. To reduce these needs as well as to enhance our resources the Commission recommends that every community water system in Canada be immediately fluoridated.

The Commission also recommends that dental public health educational programs be organized and actively provided in all health regions or units in the nation. How or by whom this is to be done is not explained.

The first volume of the Report of the Royal Commission contains very little reference to the dental hygienist. The second volume, published on February 18 of this year, contains no mention at all. I did find two observations in the first volume which may reflect the Commission's attitude. First, the commissioners apparently concluded from the small numbers of dental hygienists graduated in the past seven years that few dentists make use of this type of auxiliary service. And, secondly, they quoted the Commission on the Survey of Dentistry in the United States which questioned whether the dental hygienist is being given more training

than is required for the tasks she performs.⁵

This leaves the impression that the Commission is more concerned with the institution of large-scale children's dental treatment services than with the need for making children and parents aware of their personal responsibility in the acquisition and maintenance of dental health. Dental disease is in many respects a consequence of individual health habits and behaviour, the commissioners admit, but they would have us accept this as a reality of life. If this interpretation is correct, I think there would be grounds for serious concern.

That is why the Canadian Dental Hygienists Association and the Canadian Dental Association have given such intensive study to the Report of the Royal Commission. It is likely that the Canadian Dental Association will have made known its views on the Commission's recommendations by the time this paper is published. And if I might hazard a guess, I would suspect that, among other things, these views may contain two or

three most important recommendations: (1) the mobilization of all available educational forces to maintain and increase awareness of individual responsibility for maintaining oral health; (2) caution before committing the nation to the construction of extensive new clinical facilities and the proliferation of new kinds of dental auxiliaries; and (3) a searching investigation of all aspects of dental auxiliary services.

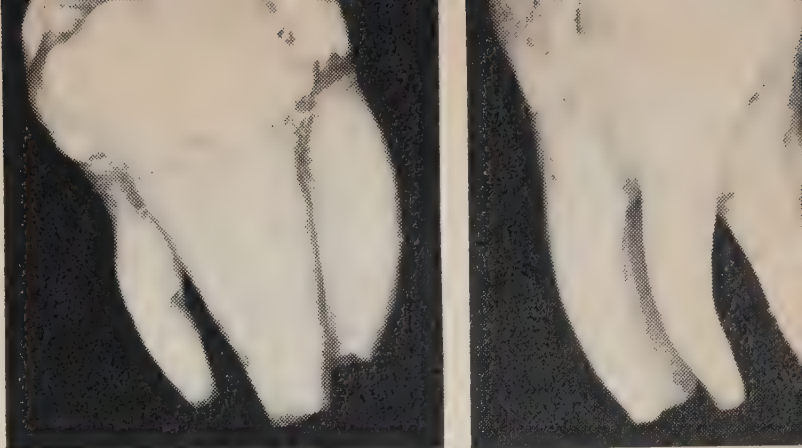
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234 St. George Street

Canadian Clinicians Wanted at Foreign Meetings • Canadian dentists who would like to serve as clinicians and essayists or present a table clinic at a foreign dental meeting are invited to notify the Canadian Dental Association. Foreign dental societies periodically ask the C.D.A. for names of Canadian dentists who are prepared to participate in the scientific programs of their meetings. Interested dentists are invited to notify the secretary of the C.D.A., indicating the title and the type of presentation they are prepared to make. Write to W. G. McIntosh, secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

FIGURES 1, 2 Disto-buccal (l.) and disto-lingual (r.) view of lower first permanent molar with three roots. The tooth was extracted from a seven year old boy.



Dental abnormalities and caries prevalence in British Columbia Indians

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Three-rooted lower first permanent molars and small dens in dente in upper incisors occur more frequently in British Columbia Indians than in average white populations. Most Indians' jaws are large and well formed, with uncrowded dental arches, but racial admixture, premature loss of deciduous teeth and physically as well as nutritionally inadequate diets predispose to reduced jaw size and crowded arches observed in some Indians. Permanent teeth erupt at an earlier age than in white children. Caries prevalence in four groups of Indian children was extremely high. Rampant caries is attributed to a highly cariogenic diet and neglect of oral hygiene. Caries is less prevalent in communities that are relatively isolated from a source of refined foods.

On trouve plus fréquemment chez les Indiens de la Colombie britannique que chez la moyenne des Blancs des premières molaires ayant trois racines et des "dens in dente" dans les incisives supérieures. La plupart des Indiens ont de grosses mandibules bien formées et des arches dentaires bien en ligne; mais le mélange des races, la perte prématurée des dents primaires et une alimentation déficiente tant au point de vue forme que teneur prédispose chez certains d'entre eux à de petits maxillaires et des arches dentaires rétrécies. Les dents permanentes font leur apparition plus tôt que chez les Blancs. La carie chez quatre groupes d'enfants indiens est abondante. La carie rampante s'attribue à une diète cariogénique et à une mauvaise hygiène. La carie dentaire est moins abondante dans les régions qui sont loin des endroits où on peut se procurer de la nourriture raffinée.

This account is derived from previously recorded clinical observation of dental abnormalities and points of interest in Indians of British Columbia. These observations were made in the course of treatment rendered as part of the dental health program sponsored by Indian and Northern Health Services of the Department of National Health and Welfare. The aims of this program are to attain improved dental health among the Indian and Eskimo peoples. The most effective and economical way to achieve these aims lies in prevention and early treatment of dental and oral diseases among their children.

During the course of this work I visited Indian bands on reserves in many parts of British Columbia. Communities of varying socio-economic levels and at various stages of adaptation to the norms of contemporary North American civilization were encountered. These ranged from the fully integrated Indians of the Vancouver area to the remote Indians living north of Babine Lake. The latter have no direct contact with any white community and they are still very much influenced by many aspects of their traditional way of life.

The observations here described are, of course, by-products of a treatment program—not the results of a scientifically designed, controlled investigation. Facilities for radiography and close-up photography were not available, but sufficient clinical records were obtained to allow discussion on a range of dental topics. These deal with anatomical aberrations and with the incidence and effects of dental caries among the Indian people.

DENTAL ANATOMICAL ABNORMALITIES

The frequency of some variations in the structure of Indians' teeth and jaws was noticeably different to the occurrence of these anomalies among the white population of the North American continent.

Lower First Molars with Three Roots.—The most striking anomaly was the high incidence of lower first molars with three roots. These teeth conform to the normal pattern in both crown and root form

apart from the presence of an additional root which is situated disto-lingually. This root appears to be a definite anatomical structure rather than a result of dichotomy of the distal root (Figures 1 and 2). In all cases the third root derives from the same level as the two main roots, these teeth having in fact a trifurcation rather than a bifurcation. The root is narrow, roughly circular in cross-section, and has a pronounced lingual inclination before curving downward to terminate at approximately the same level as the other two roots. Worth¹ states that "it is not rare to find a third [root];" but his observations relate to bifurcation of the mesial root, not to a separate distal root as reported here.

The additional root is a considerable hazard, complicating extraction of these teeth, especially when radiographs are not available to give warning of the condition.

The incidence of such teeth varied from band to band. Approximately 20 per cent of the lower first molars removed from Salish and Bella Coola Indians of the coastal areas were of this type, whereas the incidence was slightly less than 10 per cent among people of the Carrier band in the northern interior.

Unfortunately, these findings cannot be evaluated since no comparable statistics relating to this anomaly exist in the literature.

Small Dens in Dente. — Deep cingulum pits were unusually prevalent in the upper incisors of Indians. They ranged from slight invagination of enamel into the dentine to a frank fault extending deeply into dentine. No gross expanded dens in dente was seen.

The small dens in dente most commonly occurred bilaterally in the upper lateral incisors, but not infrequently all four maxillary incisors were involved. In the case of the central incisors, the pits were usually found in the cingulum at the confluence of fissures formed alongside prominent marginal ridges.

There was a familial influence in the occurrence of these pits, for parents and siblings would often present similar patterns. Such an hereditary role has been

reported by Amos² in a survey of small dens in dente in white children. There was evidence of the anomaly in 38 per cent of the parents or siblings of those found to be affected in Amos' original survey.

The incidence of these pits was fairly uniform throughout the areas visited during the treatment program, being seen in approximately 10 per cent of the people examined.

This frequency of occurrence may be compared with figures recorded by Amos² and Grahnen et al.³ Amos found evidence of dens in dente in approximately six per cent of a sample of 1,000 white children; Grahnen et al found an occurrence of approximately three per cent in a sample of 3,020 white children.

That the incidence of this abnormality may vary in different races is indicated by Amos who states that, "this phenomenon is truly rare in the Negro race."² This view is supported by my own observation that the incidence of small dens in dente in B. C. Indians is considerably higher than that recorded from samples of white persons on the North American continent.

This anomaly is of considerable clinical significance, for the presence of such pits predisposes greatly to carious attack at these sites. Gross decay frequently occurs in these areas when an extremely cariogenic diet is associated with poor oral hygiene and irregular dental treatment. Sometimes this results in pulp exposure in Indian children only eight years of age.

Supernumerary Teeth. — Supernumerary teeth in the upper incisal region were also observed in relatively higher numbers than has been recorded for white populations. Twenty-two erupted mesiodens (Figure 3) were observed in a total of approximately 2,500 patients. This abnormality was found in 0.9 per cent of the subjects.

Stafne⁴ found that the incidence of supernumerary teeth of all kinds was confined to 0.9 per cent of people. Douglas⁵ reports that approximately 50 per cent of all supernumerary teeth are found in the upper incisor region. From these statements it may be deduced that 0.45 per



FIGURE 3 Labial view of mesiodens removed from an eight year old boy.

cent of the white population may have one or more supernumerary teeth in this region. Stafne,⁴ however, used radiographic evidence to determine the presence of these teeth. Only 21 of 200 anterior maxillary supernumerary teeth, seen by Stafne in 180 patients, had erupted. The majority of these teeth were inverted and deeply impacted.

It is impossible to estimate the number of unerupted supernumerary teeth that were present in the Indians that I examined; but it is probable that radiographs might have disclosed more of these teeth, thereby raising the incidence still further from the original 0.9 per cent.

In only one case was there evidence of familial tendency toward formation of supernumerary teeth. Here, of three siblings examined, one male and one female had an erupted mesiodens. In addition all three had clinical evidence of small dens in dente, bilaterally in the maxillary lateral incisors.

The clinical effect of erupted mesiodens depended upon the size, shape and location of the extra tooth. It frequently resulted in spacing of the maxillary central incisors, rotation of these teeth, or crowding of all the teeth in this region.

Only one case of a supernumerary tooth in another region of the mouth was encountered. This was an erupted lower left bicuspid of normal form.

Development of Face and Jaws.—Facial form and jaw size varied slightly between the Indians of different regions, but an overall conformity to a large, round,

somewhat Mongoloid facial pattern was apparent. In most cases the jaws were large, the dental arches distinctly U-shaped, and the alveolar processes well developed. In families where racial interbreeding had occurred these patterns were often disturbed, the jaws being much narrower with a predisposition to crowding of the dental arches. Waugh⁶ has made similar observations in Eskimos.

Waugh⁶ and Mummery⁷ contend that jaws are smaller and weaker when primitive people adopt a so-called civilized diet. They attribute this effect to reduced physical demands on the jaws and masticatory muscles, which results in crowded, irregular arches. But it is difficult to accept this explanation in relation to British Columbia Indians. Some crowded arches probably stem from racial admixture and many more result from premature loss of deciduous teeth, a factor which is extremely common in these people. On the other hand, an impressively large number of perfectly formed arches were seen in subjects who had adopted a partially or completely civilized diet. These individuals—invariably full-blooded Indians — had no impacted teeth.

Price⁸ claims that diet is the sole determinant of defective facial development and dental disharmony when primitive races come into contact with white communities. He believes that the deformity or lack of development is related to the time at which a nutritional deficiency occurs. He considers that mixed breeding has no effect on these structures. Yet Russell et al⁹ found that certain Alaskan Eskimos who live partially on civilized foods enjoy a diet that is nutritionally superior to that of Eskimos subsisting entirely on natural foods. They support the contention of Siegel et al¹⁰ that the natural diet of primitive people is generally nutritionally inferior to a civilized diet.

I believe that each of the factors—mixed breeding, premature loss of deciduous teeth, and diet that is inadequate in terms of consistency and nutritional requirements—contributes to the disharmonies in facial and dental arch form of Indians whose way of living has been influenced by white civilization. At the

same time, all of the people that I examined lived to some extent on a civilized diet. The majority of these subjects had large, well formed faces and jaws without any sign of crowding in their dentition.

Gingival Pigmentation.—Gingival pigmentation was seen in almost all subjects. This phenomenon, a normal one in dark-skinned races, has been previously reported by McIntosh¹¹ in northern Ontario Indians of the James Bay region.

Eruption of Permanent Teeth.—As a rule the permanent teeth of Indians erupt earlier than in the white populations. In many instances early eruption of permanent teeth is due to premature loss of a deciduous predecessor. Accordingly, bicuspid were commonly observed to be present in the mouths of Indian children only seven and eight years old. On the other hand, it is not uncommon to see second permanent molars present or erupting in children of 10 or sometimes nine years of age whose dentition is otherwise normal and complete.

The eruption of the permanent teeth usually began half way through the fifth year with the appearance of either the lower first permanent molars or the lower central incisors. Almost invariably all the lower permanent incisors were erupted before the upper central incisors appeared.

OBSERVATIONS ON DENTAL CARIES

Caries Prevalence.—I originally intended to study the relationship between caries prevalence among the Indian groups and the degree to which these groups had adopted modern diet and civilization, sampling various stages in this process of adaptation. Such a study proved to be almost impossible, for nowadays very few groups of Indians are sufficiently isolated from modern influences to be able to escape some change in their natural way of life. Certainly most of the Indian bands that I encountered were subsisting to a large degree on a civilized diet, although seasonal and economic factors would often

TABLE 1 Caries prevalence in six to 12 year old British Columbia Indian children.

Location	No. of children examined	No. with caries in one or more teeth	Per cent with caries
Anaham Reserve	86	64	75%
Fort Babine	16	16	100%
Lejac School	113	107	94.7%
Sechelt Reserve	22	22	100%

necessitate a periodic change to more natural foods.

I did accomplish a limited survey of this type, for in the more remote reserves the people were much more adherent to their old ways of life than were those in continual close contact with white communities.

Table 1 presents data derived from children aged from six to 12 years inclusive. This age group was the only section of the population that was thoroughly examined in every location that I visited.

The lowest caries prevalence was recorded at the Anaham Reserve where evidence of caries was seen in 75 per cent of the children. Virtually all the children at the other three locations exhibited carious lesions.

The difference at Anaham may be due to the fact that its population has no direct contact with a store. The nearest source of refined foods is eight miles away and, as the conventional form of transport is horse-drawn, some of the Anaham children have very little of the candy, popcorn or carbonated beverages that appear to be the permanent companions of many of the children at the other locations.

Lejac School, where a few caries-free mouths were found, is a residential school that draws its pupils from a large area of the northern half of British Columbia. Although most of the Lejac children required numerous fillings and extractions, a few had excellent mouths. These children, all members of three or four families, came from extremely isolated homes. They were used to a coarse, tough diet at home. Their jaws were more strongly developed than the average and their

teeth showed an unusual degree of occlusal wear.

The other two samples were from dissimilar locations; yet all children in both groups had carious lesions. Fort Babine is an isolated reserve with little white contact apart from a company trading post. But because of this store the diet is as cariogenic and the dental condition as poor as that of the Sechelt Indians who live near Vancouver and are really much more integrated with white civilization.

These findings correspond with those of Russell et al⁹ and Price⁸ who found that caries prevalence in Indians and Eskimos diminishes inversely as the distance to the nearest centre of white civilization increases. Price¹² in 1933 found no caries whatsoever among isolated Indians in northwest Canada; yet in 20 highly modernized Indian communities on the west coast and further inland, 40 per cent of all teeth examined were affected by caries.

Causative Factors.—My overall impression of the dental condition of the B. C. Indians was one of appalling destruction, particularly in the younger age groups.

The primary causes are without doubt the extremely cariogenic diet of the people, again, especially in children, coupled with an almost total lack of oral hygiene.

For many families the standards of nutrition are low, meals are irregular and, as McIntosh¹¹ noted with the James Bay Indians, "many children were brought up on sweetened condensed milk and also . . . the crying child was habitually quieted by giving him hard candies to suck." In addition, many children receive a portion of

the family income. Therefore they are able to buy the popcorn and candy, which often constitute a major part of their diet. Some parents placate a fretful and hungry child by giving him a piece of dried fish or meat. This desirable practice avoids exposure to cariogenic substances and is many times more nutritive than a conventional snack.

I had hoped to see examples of the classical attrition so often described in primitive races and attributed to a coarse diet and consequent excessive chewing. Fortunately, a few examples were seen in older people. Massive attrition had occurred on the occlusal surfaces of both posterior and anterior teeth, these surfaces being perfectly flat, very much stained, but hard and shiny. In all cases the anterior teeth met in end to end relationship and the contact points between posterior teeth had become much flattened. Apart from these individuals, almost all the adults who had retained the majority of their teeth showed occlusal wear far in excess of that seen in the average white person.

A somewhat similar effect was seen in the deciduous molars of many of the children. The surfaces of these teeth were flattened, stained, yet similarly hard and shiny. I attributed this to arrested caries. The teeth concerned were severely decayed. A fairly coarse diet and a vigorous chewing action caused the weakened cusps to fracture. Then, when a self-cleansing surface had been obtained, the caries process had halted.

DISCUSSION

Dental caries appears to be extremely prevalent among the Indian bands that I visited in various parts of British Columbia. I gained the impression that this situation is worsening, for in families with school age children, the youngest usually had the highest rate of dental decay.

The results of this survey may be compared with those obtained by Hanley and Pett¹³ from two groups of white school children in British Columbia and Saskatchewan. Seventy per cent of the former and 48 per cent of the latter had

lesions in one or more teeth. Caries is, therefore, far more prevalent among the Indian children, although one location, the Anaham Reserve with 75 per cent involvement, corresponds approximately with the sample taken from white children in British Columbia.

The main predisposing factors appeared to be the amount of refined carbohydrate in the diet, the physical consistency of the other components of the diet and the extent to which oral hygiene, if any, was performed. The practice of oral hygiene was almost non-existent. The majority of the patients attending my clinic, adults as well as children, had no concept of the value of oral hygiene or of the methods by which they could themselves maintain an improved level of oral health.

The diet of most of the people is mixed from the viewpoint of cariogenicity. Nevertheless, damage from the refined carbohydrate element far outweighs the beneficial effects of the tough, dried foods that are still widely consumed.

The speed at which decay occurred was sometimes horrifying. It was quite common to see preschool children with the majority of their deciduous teeth broken and suppurating, or already missing. At Fort Babine, three children of less than two years of age required the extraction of all four deciduous maxillary incisors, these teeth being grossly affected by caries and showing abscess formation. Many first permanent molars were extensively filled or required extraction in six and seven year old children. It would be difficult to visualize an environment more conducive to decay than some of the mouths that I encountered.

The effect of this rampant caries and consequent extraction of permanent teeth in children is very serious. Dental care is not readily available in these areas. Consequently, many people of all ages suffer from the effects of gross dental infection. Many teenagers and adults also need full or partial dentures, yet are unable to obtain them.

This poses an enormous dental public health problem. Dental services are restricted and, for the present, little improvement can be anticipated in the oral health of these Indian people.

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170 St. George Street

Aphthous Stomatitis • A virus-like variant of a bacterium may be a mechanism of recurrence of aphthous stomatitis, or canker sores, according to E. A. Graykowski and M. F. Barile of the U.S. National Institutes of Health. The organism was isolated from oral aphthous lesions of five patients. From recurring lesions in one of the patients the organism was isolated in pure culture during six exacerbations over a 7-month period. The organism was isolated from the patient's blood during three acute phases of the infection and was absent from the blood during the quiescent periods. The organism was recovered also during remissions of the infection from tissue at the site of the previous lesions. This may suggest that a phase of the organism can remain dormant and may be responsible for the recurrence of lesions at the same site. The organism is a transitional L-form of a bacterium. The L-form is similar to the pleuropneumonia-like group of organisms which was recently shown to cause some cases of atypical pneumonia in man. The L-form may exist independently or with its bacterial parent, and the two vastly different phases can alternate in a cyclic manner through many intermediate stages. These preliminary findings suggest that a relationship exists between the L-forms and the pathogenesis of aphthous stomatitis and that at least some cases of the disease are infectious. — *Pub. Health Rep.* 78:602, 1963.

1963 Survey
of Dental Practice

1. Introduction

Bureau of Economic Research

In 1964, a survey of dental practice conditions during 1963 was undertaken by the Canadian Dental Association. Two previous surveys concerned dental practice in the years 1953 and 1958. Information gathered in these surveys has many uses. The individual dentist can see how his practice compares with the average for dentists in his area, in his age group or in his type of practice. Salary scales for dentists employed full-time or part-time can be reviewed, and the questions of students considering dentistry as a career answered, in the light of the latest survey results. The surveys are also invaluable in preparing briefs for the growing number of government committees and commissions.

TABLE 1 Percentage of dentists participating in the 1963 Survey of Dental Practice • Proportion des dentistes prenant part à l'Enquête de 1963 sur la profession dentaire.

Atlantic provinces	
Provinces maritimes	40%
Québec	35%
Ontario	47%
Prairie Provinces	
Provinces de l'ouest	48%
British Columbia	
Colombie britannique	49%
Canada	44%

Enquête sur la profession
dentaire en 1963

1. Avant-propos

Bureau des recherches économiques

En 1964, l'Association dentaire canadienne entreprit une enquête sur les conditions de pratique de la profession dentaire, durant 1963. Déjà en 1953 et en 1958 deux enquêtes avaient lieu concernant la profession dentaire. Les informations recueillies durant ces premières enquêtes sont très utiles. Elles permettent au dentiste de comparer par lui-même, la méthode d'administration de son cabinet avec celle des collègues de sa région, de ses contemporains et de ceux qui exercent le même genre de dentisterie. L'échelle des salaires des dentistes employés à temps partiel ou à plein temps peut être étudiée. Les étudiants envisageant la profession dentaire comme carrière trouvent réponses à leurs questions grâce aux informations reçues par ces dernières enquêtes. Le nombre croissant de comités et commissions du gouvernement reçoivent, par ces enquêtes, des données indispensables à la préparation de leurs dossiers.

ACCUEIL MEILLEUR QU'AUPARAVANT

Le questionnaire de 1963 était une modification des questionnaires précédents

RESPONSE WAS HIGHEST EVER

The 1963 survey questionnaire was modified from the questionnaires of previous surveys, but many of the questions were the same so that trends in dental practice can be determined. The sampling procedure remained basically unchanged. English and French questionnaires were mailed to all C.D.A. members in March, 1964. On April 15, a follow-up letter was sent to remind dentists to complete and return the questionnaire. Returns were received from 44 per cent (2,735) of all dentists. As the percentages of dentists responding to the 1953 and 1958 surveys were 31 and 39 per cent respectively, this is the best response yet received in a Survey of Dental Practice. Of course, the higher the percentage of dentists participating the more reliable is the sample. The percentage of questionnaires returned varied in different parts of the country: the Atlantic provinces had a 40 per cent return, Quebec's was 35 per cent, Ontario 47 per cent, the Prairies 48 per cent, and British Columbia 49 per cent. Of the individual provinces, Newfoundland with 57 per cent of its dentists responding, had the highest return rate.

mais plusieurs des questions restaient les mêmes afin de déterminer les tendances de la profession. La base des procédés demeura inchangée. En mars 1964, des questionnaires en anglais et en français furent expédiés à tous les membres de l'A.D.C. Le 15 avril, un aide mémoire fut envoyé chez tous les dentistes pour leur demander de répondre au questionnaire et de le retourner. Les réponses de 44 pour cent (2,735) de tous les dentistes furent reçues. Comme le pourcentage des réponses aux enquêtes de 1953 et de 1958 était de 31 et 39 pour cent, respectivement, celui de 1964 est de beaucoup supérieur aux précédents et cette enquête sur la profession dentaire reçut un meilleur accueil qu'auparavant. Il est évident que le plus haut pourcentage de dentistes répondant au questionnaire donne une idée plus complète des tendances de la profession. Les pourcentages des réponses reçues varient selon les régions du pays: les provinces de l'Atlantique donnaient 40 pour cent, le Québec 35 pour cent, l'Ontario 47 pour cent, les Prairies 48 pour cent et la Colombie britannique 49 pour cent. Cinquante-sept pour cent des dentistes de Terre-Neuve répondirent aux questions, donnant le plus haut pourcentage de réponses par province.

TABLE 2 Dentists sent questionnaires and dentists responding, by province, 1963 Survey of Dental Practice • Enquête de 1963 sur la profession dentaire: nombre de questionnaires soumis aux dentistes et réponses des dentistes, par province.

Region and province	Dentists sent questionnaires Questionnaires soumis aux dentistes	Dentists responding Dentistes ayant répondu	Per cent Pourcentage	Région et province
Atlantic	416	167	40.1	Maritime
Newfoundland	35	20	57.1	Terre-Neuve
Prince Edward Island	32	14	43.8	Ile-du-Prince-Edouard
Nova Scotia	220	86	39.1	Nouvelle-Ecosse
New Brunswick	129	47	36.4	Nouveau-Brunswick
Quebec	1,457	509	34.9	Québec
Ontario	2,610	1,223	46.9	Ontario
Prairies	966	467	48.3	Prairies
Manitoba	310	120	38.7	Manitoba
Saskatchewan	189	104	55.0	Saskatchewan
Alberta	467	243	52.0	Alberta
British Columbia	727	355	48.8	Colombie britannique
Unknown		14		Inconnu
Canada	6,176	2,735	44.3	Canada

TABLE 3 Percentage distribution of all dentists and of dentists participating in the 1963 Survey of Dental Practice. • Répartition de tous les dentistes et des dentistes participant à l'Enquête de 1963 sur la profession dentaire.

(a) By region and province • Par région et par province.

Region and province	All dentists Tous les dentistes	Participating dentists Dentistes ayant répondu	Région et province
	%	%	
Atlantic	6.3	6.1	Maritime
Newfoundland	0.7	0.7	Terre-Neuve
Prince Edward Island	0.5	0.5	Ile-du-Prince-Edouard
Nova Scotia	3.1	3.1	Nouvelle-Ecosse
New Brunswick	2.0	1.8	Nouveau-Brunswick
Quebec	23.7	18.6	Québec
Ontario	42.6	44.7	Ontario
Prairies	15.5	17.1	Prairies
Manitoba	4.7	4.4	Manitoba
Saskatchewan	3.1	3.8	Saskatchewan
Alberta	7.7	8.9	Alberta
British Columbia	11.9	12.9	Colombie britannique
Unknown		0.6	Inconnu
Canada	100.0	100.0	Canada

(b) By city size • Par densité de population.

City size Densité de population		All dentists Tous les dentistes	Participating dentists Dentistes ayant répondu
		%	%
Under • moins de	1,000	3.8	1.3
1,000	2,499	4.9	3.3
2,500	4,999	5.0	6.1
5,000	9,999	5.4	6.5
10,000	14,999	3.9	5.2
15,000	24,999	4.4	5.4
25,000	29,999	1.2	2.6
30,000	49,999	2.1	7.0
50,000	99,999	7.3	8.9
100,000	249,999	8.1	9.0
250,000	499,999	17.0	15.4
500,000 and over • et plus		36.8	27.8
Unknown • Inconnu		0.1	1.5
Total		100.0	100.0

HOW REPRESENTATIVE WAS THE SAMPLE?

Data from the dentists surveyed was matched with what is known about all dentists in Canada to determine how representative of dentistry the survey is. Distributions of all dentists in Canada by province and city size were obtained from C.D.A. records. The age and year of graduation were also available for most dentists. This is how the data for all dentists

QUE REPRESENTENT LES STATISTIQUES?

Les données de l'enquête furent comparées aux informations obtenues de tous les dentistes du Canada pour déterminer à quel point le résultat de l'enquête représente la situation de la profession dentaire. La répartition de tous les dentistes du Canada par provinces et municipalités fut obtenue des registres de l'A.D.C. Les âges et années de graduation de presque

(c) By age • Par âge.

Age			All dentists	Participating dentists
			Tous les dentistes	Dentistes ayant répondu
			%	%
Under • moins de	25		1.3	1.3
25	—	29	9.9	11.9
30	—	34	11.9	15.0
35	—	39	14.7	15.5
40	—	44	15.6	16.9
45	—	49	8.7	11.3
50	—	54	5.9	6.1
55	—	59	7.2	5.9
60	—	64	8.9	6.0
65	—	69	7.6	6.3
70	—	74	2.8	2.1
75 and over • et plus			2.5	0.6
Unknown • Inconnu			3.0	1.1
Total			100.0	100.0

(d) By year of graduation • Par année de graduation.

Year of graduation			All dentists	Participating dentists
Année de graduation			Tous les dentistes	Dentistes ayant répondu
			%	%
1960 to present • à maintenant			9.2	14.1
1950	—	59	33.6	41.5
1940	—	49	18.2	16.9
1930	—	39	11.1	10.2
1920	—	29	17.7	12.6
1910	—	19	5.0	} 2.2
1900	—	09	1.4	
Before • avant 1900			0.2	} 2.5
Unknown • Inconnu			3.6	
Total			100.0	100.0

compares with that for dentists participating in the survey:

(a) By region: The Prairie provinces and British Columbia are slightly over-represented in the sample while Quebec with 24 per cent of all dentists and 19 per cent of the dentists returning questionnaires is under-represented. The Atlantic provinces and Ontario can each claim about the same percentage of total dentists and total sample.

(b) By city size: The percentage response was less from communities of under 2,500 population and from cities with populations exceeding 500,000. Nine per cent of all dentists live in communities of

tous les dentistes proviennent de la même source. Voici comment les données pour tous les dentistes se comparent avec celles des dentistes qui ont répondu à l'enquête:

(a) Par région: Les Prairies et la Colombie britannique sont quelque peu sur-représentées dans les statistiques tandis que le Québec, comprenant 24 pour cent des dentistes de tout le pays mais n'ayant que 19 pour cent de ce nombre qui aient répondu, est sous-représenté. Les provinces de l'Atlantique et l'Ontario vont de pair en pourcentage et en données.

(b) Par densité de population: Le pourcentage des réponses était moindre venant de municipalités dont la population

under 2,500, but only five per cent of the sample is from these areas. Thirty-seven per cent of all dentists live in cities of 500,000 or more people, but only 28 per cent of the sample is from cities of this size.

(c) By age: The rate of response to the survey was less from dentists over 55 years of age. Twenty-nine per cent of all dentists are in this age group, but 21 per cent of the dentists in the sample are over 55.

(d) By year of graduation: The percentage response was best for those dentists graduating after 1950. Dentists graduating before 1930 are particularly under-represented. They comprise 24 per cent of all dentists, but only 15 per cent of the sample.

The high response to the 1963 survey ensures the basic representativeness of the sample. The sample is biased to the extent that dentists living in Quebec, dentists living in communities of under 2,500 or over 500,000 people, dentists over 55 and dentists graduating before 1930 are under-represented. This limitation should be kept in mind when applying the results of the survey to all Canadian dentists.

RESULTS TO COME

The survey is presented in 12 sections. The succeeding 11 sections will examine:

2—the income of dentists in private practice, part-time and full-time salaried employment and the variations of income according to province, city size, age, year of graduation, organization and type of practice and hours worked;

3—gross income and expenses of dentists in private practice according to province, city size, age, year of graduation, organization and type of practice;

4—gross income, expenses and net income by equipment, personnel employed and extent of 'busyness' of practice; comparisons with previous years;

5—professional expenses by specified item of expense according to province and city size;

était moins de 2,500 ainsi que celui des villes ayant une population au-delà de 500,000 habitants. Neuf pour cent des dentistes habitent des municipalités ayant moins de 2,500 habitants mais seulement cinq pour cent sont représentés dans les statistiques de ces régions. Trente-sept pour cent de tous les dentistes habitent des villes dont la population est de 500,000 ou plus, mais seulement 28 pour cent d'entre eux sont représentés dans les statistiques.

(c) Par âge: Les dentistes âgés de 55 ans et plus ont été moins nombreux que leurs cadets à répondre à l'enquête. Vingt-neuf pour cent de tous les dentistes font partie de ce groupe aîné mais seulement 21 pour cent des dentistes ayant répondu à l'enquête sont âgés de 55 ans ou plus.

(d) Par année de graduation: Le meilleur pourcentage des réponses venait des dentistes gradués depuis après 1950. Les gradués d'avant 1930 sont particulièrement sous-représentés. Leur nombre comprend 24 pour cent de tous les dentistes mais seulement 15 pour cent sont représentés dans les statistiques.

Le grand nombre de réponses à l'enquête de 1963 assure une bonne représentation de base pour les statistiques. Celles-ci indiquent de combien les dentistes du Québec, les dentistes habitant les municipalités dont la population est moins de 2,500 ou plus de 500,000 habitants et les dentistes âgés de plus de 55 ans ainsi que ceux qui ont gradué avant 1930 sont sous-représentés. Cette représentation limitée est à considérer dans l'application des résultats de l'enquête sur la profession dentaire dans tout le Canada.

RESULTATS

Les résultats de cette enquête sont présentés en 12 parties. Les sections suivantes étudieront:

2. Les revenus des dentistes en exercice privé, de ceux qui sont salariés, travaillant à plein temps ou à temps partiel et les variations dans leurs revenus selon la province, la densité de population,

6—the percentage of dentists employing specified numbers, types and combinations of auxiliaries; average salaries by type of auxiliary;

7—the time spent in the dental office by type of office activity, the number of weeks and hours worked per year; the gross income per chairside hour and the net income per hour worked; average weeks spent on vacation, days absent from work because of illness and out of office dental activities;

8—number of patients and patient visits per dentist according to different variables including number of employees and extent of 'busyness';

9—average length of appointments;

10—average fees for prophylaxes, amalgam and silicate restorations, extractions, gold inlays and complete upper dentures;

11—percentage distribution of dentists by extent of 'busyness' according to province, city size, age, year of graduation, type of practice and number of employees;

12—cost of dental services per patient and estimates of the percentage of the population receiving dental services and of expenditures on dental services by region and province.

l'âge, l'année de graduation, les genres de pratique et les heures de travail.

3. Les revenus bruts et les dépenses des dentistes en exercice privé selon la province, la densité de population, l'âge, l'année de graduation et le genre de pratique.

4. Les revenus bruts, les dépenses et revenus nets selon l'outillage, le personnel employé et le volume de travail du cabinet dentaire, comparés aux années précédentes.

5. Les dépenses professionnelles par article de dépense énuméré, selon la province et la densité de population.

6. Le pourcentage des dentistes qui emploient un nombre déterminé de personnel auxiliaire; le caractère et l'ensemble de ces auxiliaires; la moyenne des salaires d'après le caractère de l'auxiliaire.

7. Le temps attribué à chaque activité dans le cabinet dentaire; le nombre de semaines et heures de travail par année; le revenu brut par heure de travail au fauteuil et le revenu net des heures de travail; la moyenne des semaines de vacances, jours d'absence du travail causée par la maladie et activités diverses hors de leur cabinet.

8. Le nombre de patients et de visites, par dentiste, selon les différentes variations comprenant le nombre d'employés et le volume d'activité.

9. La longueur moyenne de la durée des rendez-vous.

10. La moyenne des honoraires pour la prophylaxie, les obturations au silicate et amalgame, les extractions, les incrustations d'or et les prothèses complètes.

11. Le pourcentage de la répartition des dentistes d'après le volume d'activité par province, densité de population, âge, année de graduation, genre de pratique et le nombre d'employés.

12. Le coût des soins dentaires par patient et un estimé du pourcentage de la population recevant des soins dentaires et des déboursés pour les soins dentaires par région et par province.

Change of Address

Subscribers to the *Journal of the Canadian Dental Association* should notify the Managing Director, 234 St. George Street, Toronto 5, Ontario, of their change of address before the 20th of the month, to become effective the following month.

Fire burn and cauldron bubble

Add a generous helping of state intervention to the provision of health services and the result is a volatile combustible distillate that would tax the supernatural powers of a Dr. Cagliostro.

Item: When Britain's general medical practitioners early this year asked for £18 million a year more remuneration and were only offered £5½ million, the results were immediate and spectacular: a threatened mass resignation from the National Health Service (effective April 1) by most of the country's 23,000 family physicians. The British Medical Association had quickly calculated that the government's award would amount to an increase of a penny or roughly two cents per consultation. But money per se was not the only or the real cause of the dispute. It merely advanced to the flashpoint discontent that had been simmering for years. This controversy was really more concerned with the conditions of medical practice and the status of the British family physician — a situation that was graphically depicted in a recent BBC television program titled "Portrait of a G.P." The program showed a London suburban practitioner who in one day had 95 consultations including 34 house calls. This man estimated that a patient passed through his office every three and a half minutes. He had long ago abandoned any hope of upgrading his knowledge through postgraduate or refresher courses. The pressure of work simply did not allow him the time for this. What emerged from the television screen was the image of a conscientious man being gradually stifled by frustration.

One thing that British medical practitioners want badly is a free choice of payment by fee-for-service, by capitation or by salary, but with calculations of income based on the fee-for-service method. Another request is for the setting up of an independent corporation with a fund for financing the acquisition or improvement of practice premises and equipment. They also want the number of patients for whom they are responsible to be kept down to 2,000 (in some South Wales communities a physician is now responsible for up to 5,000). And they seek improvements in the present repugnant system for handling patients' grievances.

The tension eased somewhat when on March 17 the British Minister of Health concurred with the need to help with the provision of funds for medical practices and agreed to consider the proposal for a separate publicly financed corporation for this purpose. He also suggested that the £5½ million awarded recently be used to increase the capitation income of all physicians rather than just being applied to those who are handicapped by high overhead costs.

The response of the B.M.A. was to defer action on the 17,200 resignations from the National Health Service for three months (to June 30) pending the

outcome of further negotiations between the profession and the Minister. Three conditions were embodied in the B.M.A.'s consent to this moratorium. They call for (1) amending legislation, to be prepared after the summer recess of Parliament, to set up an independent corporation to aid in the financing of practice premises; (2) reimbursement of practitioners for expenditure on ancillary help, and a reduction in clerical work; and (3) clarification by the Minister of Health of the contention that the profession must go to an independent "Review Body" for any money other than capital.

The prognosis remains uncertain. For the moment an uneasy truce prevails. Although the Minister has indicated some willingness to negotiate with the profession, tough bargaining obviously lies ahead and the outcome is unpredictable. Only one thing is reasonably clear: inject the monolithic apparatus of the state into the provision of health services and you create problems to which no one has yet found a suitable solution.

As Others See It

Teaching 'social dentistry'

The leadership role of dental schools in establishing the practice patterns and professional attitudes of the young men who will provide professional guidance in the future is well recognized and accepted everywhere. To some extent the accreditation program of the American Dental Association's Council on Dental Education is an elevating influence on what is taught in the dental schools in the United States.

The rapidity and thoroughness with which the Council on Dental Education's recommendations for curriculum improvements have been put into effect, as one might anticipate, have also been influenced by the attitudes and interests of the several deans and their faculties. An illuminating example is the requirement by the council in the late 1930's that dental schools include a course in dentistry for children. At the same time the council voted to require a course in public health.

During the intervening two and a half decades dental schools have brought about tremendous advancements in the science and art of paedodontics. On the other hand, the performance of dental schools concerning dental public health is disappointing. The lack of a favourable impact of public health courses on the social attitudes of dentists, their un-alertness to social changes and their slowness to apply research findings as they have become available have become more harmful with the passage of time. The good results of the council's action in the first instance and the indifferent results in the second have set the stage for re-evaluating the efforts of dental schools to graduate young men fully conscious of their obligations, as well as their rights and privileges.

The gap is yet very wide between the A.D.A.'s forthright published statement that "dental care should be available to all regardless of income or geographic location as rapidly as resources will permit" and a real effort by the profession to reach such an objective. As further documentation, the *Survey of Dentistry* proposes many public health programs, financial recommendations, and man-

power objectives which are apparently repugnant to a substantial portion of the dental profession. Certainly, there can be little argument that dental schools and the Council on Dental Education have been less effective in influencing professional attitudes about dental care for all of society than they have in changing the performance of dentists concerning dental techniques for children.

Recognizing that a course or two in public health will not overcome the tendency of dental faculties to train students exclusively to treat only those patients who demand and are willing to pay for the finest type of dental care, it becomes obvious that new approaches must be made. In doing so, it will be necessary to take into account the enormous faculty resistance existing in most schools concerning the necessity to teach students how to technically and socially manage indigent, dentally indigent, and part-pay patients.

Of all the evidence of the profession's lack of leadership in health affairs the most damaging is society's disinterest in supporting the dental profession's own educational program. Private sources of financial support for dental education and dental research are extremely meagre. Undoubtedly many educated and influential people believe that dentists make little or no contribution to the public welfare and believe, in turn, that dental education does not merit generous contributions. Even alumni support of schools is far from adequate. Government, at all levels, is also looked to for financial assistance. But, here again legislators, who appropriate funds, being people, are less aware of the plight of dental education than they are of the needs of other health service institutions. Even so, most informed observers feel that tax-supported dental institutions, depending on a few laymen, fare better financially than do the privately supported schools who must depend on many.

It is unfortunate that groups of dentists, however small, are so ill-informed of the official position taken by their own organization (A.D.A.) and the fundamental problems involved that they oppose proposals for government support to improve the distribution of dental care or the financial position of dental schools. From the public's viewpoint the inescapable conclusion is that dentists are vested interests concerned only with their own welfare.

Since the leadership role of dental schools in producing young practitioners with a social consciousness must be improved, the paper by Philip E. Blackerby entitled "Why not a department of social dentistry?" published in the *Journal of Dental Education*, September 1960 was most timely.

Indeed, why not a department of social dentistry?

W. J. Pelton

United States Department of Health, Education and Welfare. Public Health Service. Division of Dental Public Health and Resources. Social dentistry: seminar proceedings (Kellyton, Alabama, April 1963). Washington, United States Government Printing Office, 1964. Also in *Journal of the American College of Dentists*, Vol. 31, October 1964. Reprinted by permission.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

The Pelting of This Pitiless Storm

To the Editor:

A matter has arisen which has caused us considerable concern. The editorial ("Storm Warning") in the January issue referred to "one of the nation's largest cities," mentioned "40 complaints daily" and referred to "an average of 8,000 such calls a year."

We feel that editorial policy must be sensitive to and completely responsible for what can be inferred from editorials as well as what is firmly stated. True, one reads into any article what one already believes. This, however, does not release the editor from taking all reasonable pains that misinterpretation does not occur.

The fact that the editorial has been reprinted in the *Journal of the American Dental Association* with amazing speed, has

ensured a very wide distribution of any merits it had. By the same token, it has made any misunderstandings impossible to revoke.

Our office has received many telephone calls from concerned practitioners wishing clarification — "Did the article refer to Toronto or not?" "If it did, what was the significance of the report?", and so on. We could only reply, as we now do to you. We have never released any figures at any time to the Canadian Dental Association. The only compilation of figures we have is in reference to our Mediations Committee, and it is inherent to the effectiveness of this Committee, that no publicity or releases be made. You must remember, the purpose of a Mediations Committee is quite distinct from a Discipline Committee.

We can further state that the figures quoted in the editorial have no relation to our experience, by the wildest stretch of imagination. It would, in fact, be a rare day that our telephone even rang 40 times concerning all the business we transact, let alone concerning 'complaints,' a word that needs careful definition.

You must understand that the Council of the Academy of Dentistry, Toronto, is not making a judgement on the theme of the editorial, but is seriously concerned about the inference that 'Toronto the Good' is in fact being discussed. We strongly suggest that the editor use source material that can be examined in broad daylight.

*J. E. C. McGowan, D.D.S., M.Sc.(Dent.),
Past President, Academy of Dentistry,
Toronto.*

An editor must be sensitive to what can be inferred from his editorials, as Dr. McGowan correctly points out. That is one reason why the city and society mentioned in "Storm Warning" were not identified. Revelation of their identity would justifiably invite the criticism, 'Why pick on us?', but would not necessarily reinforce the message which this editorial tried to convey. (Ed.)

National Fee Scale Wanted

To the Editor:

In the editorial of the January issue entitled "Storm Warning," the C.D.A. warns that dentists are charging outrageous fees and because of this are bringing about their own doom. The Canadian Council for Dental Information claims the C.D.A. is using "scare tactics" to encourage dentists to reduce their fees.

When I began my practice in the fall of 1963 I sought advice concerning the rate of fees from dentists who had been in practice for years. When I asked what their usual charge was for a normal M.O.D. amalgam restoration I got evasive answers: "... charge what you think is appropriate." "I can't tell you—it's up to you." I noticed that dentists discussing their fees seem, in many instances, to boast about large fees they obtain for their services. It is almost impossible to engage a confrere in an honest discussion about his fees.

Before I can reach any intelligent conclusions, before I know what to think, I must know what the C.D.A. considers to be an appropriate scale of fees. For example, what fee is considered appropriate for an uncomplicated M.O. amalgam restoration? I don't want a complicated, theoretical formula to determine my fee. I want a simple, straight answer. Is it \$3? — \$5 — \$12? What is an appropriate fee for a complete acrylic denture? For a cast partial denture? I don't want to know what one dentist thinks should be charged. I want to know what is the average fee being charged across Canada for such services. Why can't the next C.D.A. Journal have one page printed with a form to be filled and returned unsigned by all dentists? The form might be worded as follows:

My usual fee for an uncomplicated M.O. amalgam restoration is \$——.

My usual fee for a complete acrylic denture usually is \$——.

etc.

*D. J. Signer, D.D.S.,
4781 Van Horne Avenue, Montreal, P. Que.*

All provincial dental organizations have fee schedules but C.D.A. policy precludes the setting of a national fee scale. Instead, the C.D.A. has concentrated on a relative value method of fee determination as described editorially in the November 1964 Journal. Average 1963 Canadian dental fees for prophylaxis, two surface amalgam restoration, silicate or acrylic restoration, uncomplicated extraction, two surface gold inlay and complete upper denture will also emerge from results of the Third Survey of Dental Practice to be published serially in the course of this year. (Ed.)

UWO Library Seeks Dental Journals

To the Editor:

A relatively recent action of the Government of Ontario has made possible the establishment of Canada's eighth dental school, the Faculty of Dentistry of the University of Western Ontario. Although it will be some time before the first class is enrolled, activities are already proceeding toward the establishment, within the present Medical Library, of a dental collection. I am sure there are many dentists who have substantive journals of value in their personal libraries who would be responsive to the needs of a new and developing dental school.

Should any of your readers have any of the journals on the appended list, bound or unbound, which they would care to donate, this generous action would be most deeply appreciated. Books are also needed. These fall into two categories: (1) books of historical value or (2) tests and monographs published since 1958.

I hope, sincerely, that many of my colleagues will wish to make such donations and for those who do, it would be appreciated if they would write to Dr. Olga B. Bishop, Librarian, Medical Library, The University of Western Ontario, London, Canada, to inform her of the material available and to arrange for its transmission to the University.

*Wesley J. Dunn, Dean,
Faculty of Dentistry,
University of Western Ontario.*

Acta Odontologica Scandinavica
American Association of Public Health Dentists. Bulletin
American Journal of Orthodontics
Angle Orthodontist
Annals of Dentistry
Archives of Oral Biology
Australian Dental Journal
British Dental Journal
British Journal of Oral Surgery
Bulletin of the History of Dentistry
Dental Abstracts
Dental Digest
Dental Health
Dental Practitioner and Dental Record
Dental Survey
Helvetica Odontologica Acta
International Dental Journal
International Journal of Orthodontics
Journal of Dental Education
Journal of Dental Medicine
Journal of Dental Research
Journal of Dentistry for Children
Journal of Oral Surgery, Anesthesia, and Hospital Dental Service
Journal of Oral Therapeutics & Pharmacology
Journal of Periodontology

Journal of Prosthetic Dentistry
 Journal of the Society for Dental Research
 Massachusetts Dental Society Journal
 Michigan State Dental Society. Journal
 New York Journal of Dentistry
 New York State Dental Journal
 New Zealand Dental Journal
 North-West Dentistry
 Ontario Dental Association. Journal
 Oral Health
 Oral Hygiene
 Oral Surgery, Oral Medicine, Oral Pathology
 Periodontics
 Practical Dental Monographs
 Tennessee State Dental Association. Journal
 Texas Dental Journal
 Western Society of Periodontology. Journal

Refracture of Malunited Fracture of Maxilla

To the Editor:

I have read the article in the January Journal entitled "Surgical Treatment of Long-Standing Malunited Horizontal Fracture of the Maxilla," by Antoni et al. Since then I have been trying to visualize what actually happened in this case in order to explain the several inconsistencies which the report contains.

One is left with the feeling that certain information has not been made available to the reader. This information is necessary for the full understanding of the case. Models which show the pre- and postoperative relationship of the jaws (without the denture in place) or radiographs which demonstrate the extent of the defect would have been most instructive.

The authors state that "It is not usually possible to obtain completely free motion of the refractured bone due to the osteotome." If this is so, why try this method of treatment since successful repositioning of the fragment would rest on this point? R. O. Dingman, in his recently published book *Surgery of Facial Fractures*, states on page 357, "Usually it is possible to obtain completely free movement of the fractured bone," when describing a similar case. In addition, the blood supply to the fragment appears to have been effectively cut off by this procedure.

Again the authors state, "Although in most cases the original fracture site cannot be identified, we were able to visualize a portion of the horizontal fracture line in the left anterior maxilla only." With the alleged extent of displacement of the maxilla, this is a strange situation. Is it possible that this is the only place where a fracture had taken place?

Was the maxillary right cuspid removed? Although it appears to be missing in the postoperative photograph, there is no mention made of this in the report. If the

tooth which one can see in the postoperative photograph is the first bicuspid, there has been no appreciable change in its position from the one observed in the pre-operative photograph. Since there is no postoperative profile photograph of the patient, it is difficult to assess how beneficial the surgical correction has been.

In conclusion, it would be interesting to know if anyone other than Drs. Dingman and Harding has successfully used the rather heroic, if ill-advised method of re-creating a long-standing maxillary fracture. The article states, "If greater force is needed for refracture, a piece of wood about one inch square and six inches long is placed against the anterior part of the tray over the alveolar process, and struck a firm blow with a heavy mallet." The authors point out that such procedures will frequently loosen the tooth-bearing component of the maxilla. 'From what?' one might ask.

The authors can undoubtedly enlighten the reader by providing more information about the case, and in so doing, answer questions which must have been asked subconsciously by everyone who read this article.

J. F. Methven, D.D.S.,
 86 Bloor St. West, Toronto 5, Ont.

The Authors Reply:

Thank you for allowing us to answer Dr. Methven's letter.

Six months prior to consulting us, this young female patient suffered very severe injuries in a car accident. Her condition was so very precarious that treatment of her jaw injuries was delayed for some time after her accident. As the opening sentence in our article states: "Fracture of the facial bones is not generally regarded as an acute surgical emergency. Treatment may consequently be postponed, particularly in hospitals without personnel trained in the management of facial injuries. As a result such victims of facial injury are left with long-standing post-traumatic structural deformities." This patient was left with such a deformity. Indeed, it was so severe that she was willing to travel 1,500 miles in the hope that we could help her.

The pre-operative photograph (Figure 1) clearly demonstrated the extent of the deformity. The maxilla was pushed way back, and the patient had no occlusion whatever. Clinically, the bony posterior margin of the maxilla could easily be palpated at the soft tissues of the throat. It was even somewhat awkward for her to swallow.

Dr. Methven should appreciate that this was a case of malunion rather than one of nonunion. There is a distinct difference. The malunion was of six months or longer duration, and since it was the maxilla that was involved, we considered ourselves fortunate in being able to identify the original fracture even to a very limited extent. After

bony union and calcification take place it is almost impossible to ever identify an original fracture site. Bony union in maxillary fractures usually occurs much sooner than in fractures of other bones. Because we could only visualize a portion of the horizontal fracture, Dr. Methven asks "Is it possible that this is the only place that a fracture had taken place?" This is highly improbable as the clinical picture would have differed markedly from that which presented itself. In such a situation only the fractured side of the maxilla would have been displaced posteriorly; the uninvolvement of the maxilla would have retained its anatomical relationship with the corresponding side of the mandible, and would have presented with a normal occlusion of the teeth on that side. This, of course, is contrary to what was stated in the article, namely, that the entire maxilla was displaced posteriorly because the anterior segment of the maxilla was symmetrically telescoped by the corresponding segment of the mandible, and that a bilateral malocclusion, consistent with posterior displacement of the entire maxilla, existed.

The objective of the surgical procedure is plainly and clearly depicted in the three diagrammatic drawings that precede the article at the top of page 22. In the treatment of maxillary fractures it is essential to re-establish two normal anatomical relationships: (1) normal relationship of the maxilla to the cranium, and (2) normal relationship of the maxilla to the mandible. Dr. Methven writes, "The authors point out that such procedures will frequently loosen the tooth-bearing component of the maxilla. 'From what?' one might ask." The obvious answer is from the adjacent superior structures so that the normal anatomical relationships of the maxilla to the cranium and to the mandible may be re-established.

In our article, we write "will frequently loosen" advisedly, because it is quite possible that sometimes completely free movement cannot be achieved. This is our opinion, and we are fully aware that others may hold different views. In the third paragraph of Dr. Methven's letter there is an incorrect quotation from our article. We offer the following as further explanation of the actual statement in our article: Sometimes it is difficult to break up all the fibrous adhesions in a long-standing maxillary fracture. In the fracture region and elsewhere where fibrous adhesions still exist they impede the completely free movement of the maxilla to a new position. This possibility, however, is not sufficient to deter us from

trying to help the patient in this terrible predicament.

The maxillary right cuspid was not removed. The angle of the photograph, together with the fact that the best position we could achieve on this side was one of slight linguoversion, gives a slightly distorted postoperative picture. In short, we were able to achieve more free movement of the left side than of the right.

Dr. Methven calls this procedure "rather heroic and ill-advised." It would be heroic if attempted by someone inadequately trained in this type of surgery. It certainly would seem radical to such a person, but where does one draw the line between radical and conservative treatment? Depending upon the individual's training and experience, what may seem radical treatment to one can be quite conservative to another. We feel that the treatment we instituted was not radical at all, but purely a straight forward, acceptable, and proven surgical technique for the correction of such a condition. The objective of the procedure is definite and positive. The surgical risk is minimal. Disturbance of the blood supply is not a major concern. After all, the palatal tissue is not stripped off the bone. Therefore this source of nutrition is not disturbed. Furthermore, the oral cavity is blessed with a bountiful blood supply. Should the objective of the procedure not be achieved, then the very worst that could happen is that the patient reverts to her pre-operative condition. Fortunately, in this particular case the result was most gratifying.

A. A. Antoni, T. B. Van de Mark
and Simon Weinberg,
The Doctors Hospital, Toronto, Ont.

Management of Medical Emergencies

To the Editor:

I consider the paper on management of medical emergencies in the dental office (in the March Journal) to be an excellent presentation of the problem.

We have received reports of two cases where patients in the dental office became pulseless and ceased to breathe. Both, I am glad to say, were saved by the application of cardiopulmonary resuscitation.

W. B. Kouwenhoven, Dr. Ing.,
Lecturer in Surgery,
The Johns Hopkins Hospital,
Baltimore, Maryland.

The Association

McGill and Toronto Students Win C.D.A. Essay Prizes

D. C. Chin of McGill University and A. E. Dempster of the University of Toronto have been awarded first and second prize respectively in the 1964-65 Canadian Dental Association War Memorial Essay Competition. The subject of last year's competition was "Management of Dental Emergencies." The two winning essays will be published in the *Journal of the Canadian Dental Association*.

At the end of World War II the War Memorial Award Fund was created by subscription among dentists as a memorial for colleagues who were killed during the war. The Fund established an essay competition among final year students in Canadian dental schools to encourage the preparation of manuscripts for publication.

Wanted: Canadian Clinicians at Foreign Meetings

Canadian dentists who would like to serve as clinicians and essayists or present a table clinic at a foreign dental meeting are invited to notify the Canadian Dental Association. Foreign dental societies periodically ask the C.D.A. for names of Canadian dentists who are prepared to participate in the scientific programs of their meetings. Interested dentists are invited to notify the secretary of the C.D.A., indicating the title and the type of presentation they are prepared to make. Write to W. G. McIntosh, secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

News from Parliament

Implementation of Hall Commission's Recommendations

The following exchange took place in the House of Commons on April 29:

"Stanley Knowles (Winnipeg North Centre): Mr. Speaker, I should like to address a question to the Prime Minister. In view of the statement made in his budget speech by the Minister of Finance that the government will act on the Report of the Royal Commission on Taxation after it has received it and that it will amend the income tax structure by 1967, will the government treat the report which it already has received in the same way? In other words, can we expect action to be taken at least by 1967 on the Report of the Royal Commission on Health Services?"

"Rt. Hon. L. B. Pearson (Prime Minister): Mr. Speaker, as far as the latter part of the question is concerned, that report has already been considered and, as my hon. friend knows, part of that consideration has led to the calling of a federal-provincial conference to be held later in May. So far as the first Commission report is concerned, my hon. friend said the Minister of Finance stated that we would act on that report when it was received. With all respect I do not think that is what the Minister stated. We will give consideration to the report, and it would obviously be unwise to make tax structure changes pending the receipt and consideration of such a report . . ."

Canada and the Provinces

Education Fund Awards 1965 Fellowships

Two new fellowships, totalling \$5,500, for training dental teachers have been awarded through the program of the Canadian Fund for Dental Education. Recipients and the amounts of their awards are: R. C.

McClelland of Edmonton, \$3,000; and G. A. Zarb of Toronto, \$2,500.

Dr. McClelland, currently associate professor of prosthodontics at the University of Alberta, will take graduate training in prosthodontics at Ohio State University. He will return to full-time teaching at the University of Alberta.

Dr. Zarb, a graduate of the Royal University of Malta and of the University of Michigan, will also pursue graduate study in prosthodontics at Ohio State University. Dr. Zarb will return to a teaching appointment at the University of Toronto.

The Fund has also awarded unconditional grants of \$1,000 to each Canadian dental school. Moneys from these grants are to be used at the discretion of the respective deans.

The Canadian Fund for Dental Education was established some years ago to aid dental education, assist dental schools, promote scholarships and student loans, and help recruit new students for Canada's dental schools. Information about teacher training fellowships may be obtained from the secretary, Canadian Fund for Dental Education, 234 St. George Street, Toronto 5, Ontario.

Hospital Dentistry Course at Scarborough Genl. Hospital Oct. 21-22

Scarborough General Hospital, Scarborough, Ontario, will offer a two-day course on hospital dentistry next October 21-22. This is the third annual seminar of this kind scheduled by this east suburban Toronto hospital.

The theme of this year's course is "Integration of the Department of Dentistry and of the Dentist into the Hospital Pattern." The course content covers the legal status of the department and the practitioner; education of other hospital staff members regarding the dentists' contribution to hospital care of the patient; and education of the dentist in the legal, professional, procedural and administrative requirements of hospital practice. Instruction, demonstrations and practice will also be offered in operating room procedure, records and documentation, emergency procedure and organization of the Department of Dentistry.

Early registration is desirable as attendance will be limited. The \$50 registration fee includes luncheons. For further details please write to the Course Registrar, Simon Weinberg, Scarborough General Hospital, 3050 Lawrence Avenue East, Scarborough, Ontario.

Manitoba Legislature Committee on Denturists Reconstituted

The committee of the Manitoba Legislature enquiring into the role of denturists in that province has been empowered to continue deliberations for another year. Though Health Minister C. H. Whitney believes the final report of the committee may be tabled before the end of the present session, he rejected efforts to make this mandatory.

The committee was appointed a year ago to delve into the question of whether or not denturists should be allowed to fabricate and sell dentures directly to the public.

Dentists, Kiwanians, Provide New Service in Winnipeg

Twenty-three city dentists and the Winnipeg Kiwanis Club have joined forces to provide dental care to underprivileged people unable to get such assistance elsewhere. The dentists are using \$40,000 worth of new equipment in a new dental clinic located at the Mount Carmel Clinic in Winnipeg. The equipment was donated by the Kiwanians. The dentists, who volunteered their services, serve in rotation. Six specialists act as consultants.

Dr. Chegwin, Former Saskatchewan Dental Director, Dies at 70

A. E. Chegwin, who served as the first director of the Dental Services Division, Saskatchewan Department of Public Health, died in Regina March 30.

Born in Lacombe, Alberta, Dr. Chegwin graduated with a D.D.S. degree from the Royal College of Dental Surgeons in Toronto in 1919. After several years of practice in Moose Jaw and military service in both world wars, Dr. Chegwin re-

turned to the University of Toronto where he earned a diploma in dental public health in 1950.

He was appointed Saskatchewan's dental director in 1948, a position which he held until his retirement in 1963. In this capacity Dr. Chegwin is credited for introducing fluoridation to Moose Jaw and other Saskatchewan communities. Dr. Chegwin in 1962 accompanied a three man Saskatchewan Observation Mission to New Zealand to study that country's school dental service.

In addition to his provincial government appointment, Dr. Chegwin served at different times as a councillor of the College of Dental Surgeons of Saskatchewan, as member of the Moose Jaw City Council and of the Moose Jaw Union Hospital Board. He was an honorary life member of the Saskatchewan branch of the Canadian Public Health Association and a fellow of the International College of Dentists.

Dental Bill Dies in B.C. Legislature

Cyril Shelford, M.L.A., a member for Omineca in the British Columbia Legislature, recently sponsored a bill which would have amended the Dental Technicians Act to permit mechanics to make partial and immediate dentures. Mr. Shelford promoted another bill amending the Dentistry Act which would allow dentists to collaborate with mechanics in the matter of extractions for dentures.

Neither bill was called for second reading by the House.

International Items

Reports of Saskatchewan Mission to New Zealand Released

The reports of the Observation Mission from Saskatchewan sent to study the New Zealand School Dental Service in July 1962 have recently been released. Members of the mission were: Dr. J. J. Schachter, practising orthodontist from Saska-

toon; Dr. A. E. Chegwin, former Director of the Dental Health Division, Saskatchewan Department of Public Health; Mr. C. M. MacKay, Assistant director (Accounting), Hospital Administration and Standards Division, Saskatchewan Department of Public Health.

During the two week visit to New Zealand the mission was asked to study the training and employment of dental nurses in the New Zealand program and evaluate their impact in improving the dental health of the children. The costs of both the training and service programs were assessed.

Each member of the mission submitted a separate report. In his report, Dr. Chegwin concluded, "On balance . . . the New Zealand program, despite its imperfections, would seem to have more advantages than disadvantages taking all matters into consideration." Dr. Schachter was more critical. He found that the mouths of New Zealand children and adolescents were in "a state of excellent dental health." "The New Zealand dental nurse is capable of good, average operative procedures and while the quality in this field compares favourably to that of the average practitioner, her total dental picture of the child is extremely narrow . . . her clinical procedures are not only limited, but without imagination. She is prohibited from proceeding beyond her limited, narrow training, yet has no one to turn to when difficulties arise . . . The New Zealand dental nurse does not receive adequate diagnostic training, yet she is the only one the children see until their graduation to the Adolescent Plan. She cannot recognize abnormalities, so she is unable to plan preventive measures."

Mr. MacKay made the following suggestions: "It is my opinion that the information and opinions provided to me are sufficient to prepare preliminary estimates of the cost of developing an effective dental treatment and dental education program for children in this province which may be similar to or vary from the New Zealand program, and I propose to begin such estimates based on a 20 year development similar to the program in New Zealand . . . I would be pleased if a committee representing at

least the College of Dental Surgeons, the Department of Education, and the Department of Public Health could be formed to provide advice and opinions on the evolvement of such a program."

Copies of this report may be borrowed from the C.D.A. library.

Dr. Grainger Attends WHO Conference

Professor R. M. Grainger of the Faculty of Dentistry, University of Toronto, attended a meeting of the World Health Organization Scientific Group on Research in Dental Health March 29 to April 10 in Geneva. He was among 15 dental scientists representing Canada, the United States, France, Australia, Czechoslovakia, Sweden, Switzerland, the United Kingdom and the Soviet Union. They explored methods of developing more effectively the role of WHO in international dental research activities.

N. American-Soviet Dental Conference Precedes F.D.I. Vienna Session

A North American-Soviet Conference on National Dental Health and Dental Diseases is scheduled at Moscow State University June 23 - 26, immediately preceding the 53rd annual session of the Fédération Dentaire Internationale in Vienna June 26 to July 3. The Moscow meeting is the first dental conference of its kind which brings together Canadian, American and Soviet dentists for a scientific meeting. The North American dentists will also visit Tbilisi, capital of Georgia; Kiev, capital of the Ukraine, where they will see a dental clinic and a dental school; and Leningrad, before going on to the Moscow and Vienna meetings.

American Dental Assn. Meets in Las Vegas Nov. 8-11

More than 20,000 dentists and representatives of related health areas are expected

to attend the 106th annual session of the American Dental Association in Las Vegas November 8 - 11.

The scientific program will be presented in the Las Vegas Convention Centre. Approximately 700 dental educators, scientists and practitioners will participate.

Dentists interested in presenting clinical lectures (20 minutes, illustrated with slides), table clinics, scientific exhibits or motion pictures are invited to write for an official application form to the A.D.A. Council on Scientific Session, 222 East Superior Street, Chicago, Illinois 60611, U.S.A.

In making application for participation in the scientific session, the exact type of exhibit or presentation must be specified. An individual may participate in more than one area of the scientific program but he may not give two presentations of the same type, such as two clinical lectures. Participation in the essay program is by invitation only.

The preliminary program of the scientific session will be published in the August 1965 issue of *The Journal of the American Dental Association*.

Among the many special features planned for the session will be: a conference on journalism; a National Conference on Patient Education; a forum of three half-day sessions on the conservative approach to problems in operative dentistry; forums of three half-day sessions on complete and partial prosthodontics; two panels on dental research with clinical applications—adhesive materials and implantation of teeth; a symposium on preventive dentistry; a panel on the utilization of gold as a restorative material; three sessions on practice administration—training of auxiliary personnel, utilization of equipment and prepaid dental care; a symposium on the use of topical fluorides; sessions in oral surgery, periodontics, orthodontics and radiology.

In addition, a program of clinical lectures, table clinics and television clinics has been prepared.

Further information regarding the A.-D.A. session can be obtained from Harold Hillenbrand, secretary, 222 East Superior Street, Chicago, Illinois 60611, U.S.A.

Oral Biology Meeting in California Set for October 8-12

The American Institute of Oral Biology will hold its 22nd annual meeting October 8-12 at the Oasis Hotel, Palm Springs, California. The faculty will comprise:

E. S. Gordon, M.D., professor of medicine at the University of Wisconsin, who will discuss the biochemistry and physiology of exercise, the mechanisms of psychosomatic disease, and the integrated emotional and physical development of children;

W. H. Hildemann, Ph.D., associate professor of microbiology and immunology at the University of California at Los Angeles, who will discuss transplantation disease, transplantation immunology, and genetic aspects of infectious disease;

E. E. Hunt, Jr., Ph.D., professor of anthropology at Harvard University and Forsyth Dental Center in Boston, who will present the life cycle of dental occlusion and attrition in primitive and civilized man as well as the predictability and genetic control of dental, facial, and postcranial growth in man;

Philip Person, D.D.S., Ph.D., chief, Special Dental Research Program at the Veterans Administration Hospital in Brooklyn and lecturer at Rutgers University, who will evaluate the evolution of oral and skeletal tissues and the aerobic oxidative metabolism of oral tissues; and

R. V. Walker, D.D.S., chairman of the Division of Oral Surgery at Parkland Memorial Hospital and associate professor at the University of Texas Southwestern Medical School in Dallas. Dr. Walker's experience is in the fields of oral tumours and exfoliative cytology, bone grafting, and remodeling of the mandibular condyle.

Participants at this meeting will receive prepared manuscripts well in advance of the sessions in order to allow previous study. Discussion periods immediately following each lecture and additional 'forum discussions' will bring out practical applications of the conference subjects to dental practice, thereby enhancing the 'take home' value of the meeting.

Further information and application forms may be obtained from the executive secretary, Mrs. Marion Lewis Meyer,

260 San Leandro Way, San Francisco, California 94127, U.S.A.

Mexican Congress Set for November 14-18

Canadian dentists have been invited to attend the Mexican Dental Association meeting in Mexico City November 14-18. This event combines Mexico's first international dental congress with the dental association's eighth national congress. Sessions will take place at the Unidad de Congresos del Seguro Social in Mexico City. Simultaneous translation into Spanish, English and French will be provided. For further information please write to Raul Espinosa de la Sierra, Sinaloa No. 9, México 7, D.F., Mexico.

French Dental Meeting Slated for Nov. 22-28

Canadian dentists have been invited to attend the 39th International Dental Meeting in Paris, France (39es Journées Dentaires Internationales de Paris) November 22-28. Sessions will take place at the Maison de la Chimie. Simultaneous translation into four languages will be provided for the scientific meetings. There will also be a large dental trade exhibit. For further information please write to J. P. Cavaillon, 58 rue du Maréchal Foch, Versailles, France.

Dental Organizations

Endodontic Academy Meets

The first scientific meeting of the Canadian Academy of Endodontics was held jointly with the Toronto Endodontic Study Club March 26-27. E. M. Madlener and C. D. Torneck of Toronto, B. Sedlezky of Montreal (substituting for W. Johnson), and L. J. Fenech of Windsor gave papers on March 26. Subjects of the papers were "The Role of Micro-organisms in Causing Endodontic Disease" (Madlener),

"The Role of Micro-organisms in Repair Following Endodontic Treatment" (Torneck), "Elimination of Micro-organisms During Endodontic Therapy" (Sedlezky), and "Obliteration of Root Canals Using Various Materials and Techniques" (Fenech). Herbert Schilder of Boston was the guest speaker on March 27. Dr. Schilder's topic dealt with the relationship between periodontal and endodontic disease.

The present executive of the Canadian Academy of Endodontics was unanimously re-elected. Thus, G. C. Hare of Toronto continues as president until the next annual meeting to be held in conjunction with the Canadian Dental Association national convention in June 1966.

Newly elected officers of the Toronto Endodontic Study Club are: T. Manus, president; W. Beatty, vice-president; and S. Mednick, secretary-treasurer.

Saint John Dentists Meet

The Saint John Dental Society marked April 24 with a clinical meeting, a ladies night and a presentation of honour scrolls to two local practitioners.

I. C. Bennett of Dalhousie University, Halifax, lectured on paedodontics during the afternoon session. In a statement to the press, Doctor Bennett strongly advocated fluoridation of communal water supplies. Later, accompanied by local dentists, he inspected the new dental facilities at the Lancaster Hospital for Retarded Children.

I. K. Farrer and P. L. Bonnell, two Saint John dentists who have practised for 50 years, received Scrolls of Honour from the society later in the evening. Bouquets of red roses were presented to Mrs. Farrer and Mrs. Bonnell.

Cornish is President of Toronto Academy

Recent elections by the Toronto Academy of Dentistry resulted in the appointment of Murray Cornish as president for the 1965-66 term. Born and educated in Toronto, Dr. Cornish served overseas with the Royal Canadian Dental Corps in

World War II before returning to private practice. He has been on the staff of Toronto's New Mount Sinai Hospital for 25 years.



Murray Cornish

Also elected to the Academy's Senior Council were J. E. Carson McGowan, past-president; M. G. Hardy, president-elect; G. M. Marshall, secretary; and B. J. Levin, treasurer.

District councillors are W. J. McColeman and D. M. McKee, North District; R. A. Bell and J. T. Hing, West District; Bernard Crystal and M. A. Kamienski, East District; W. L. Heaslip and G. C. Stirling, Central District.

C.D.A. Governors from Ontario Named

At a recent meeting of the Board of Directors of the Royal College of Dental Surgeons of Ontario five dentists were appointed representatives to and governors of the Canadian Dental Association. They are: J. P. Coupland of Ottawa, W. G. Bruce of Kincardine, and J. D. Purves, O. J. Yule and E. T. Guest—all of Toronto. Dr. Guest is a nominee of the Ontario Dental Association.

Winnipeg Dentists Hold Spring Meeting

The Winnipeg Dental Society held two all-day scientific sessions during the past spring. Two noted clinicians, J. D. Guthrie and Earl Pound, were the respective lecturers at the March and April meetings.

Dr. Guthrie spoke on diagnostic and other problems encountered in crown and



Discussing professional affairs at an April 7 meeting of the Hamilton Academy of Dentistry are (l. to r.) Rémy Langlois, immediate past president of the Canadian Dental Association; J. G. Holbrook, past president of the Hamilton Academy; C.D.A. Secretary W. G. McIntosh; and N. A. Mancini, president of the Hamilton Academy.

bridge prosthodontics. He went on to describe pontic design and aesthetic considerations in fixed bridge prosthesis.

Earl Pound chose as his topic the problems of functional dentures. He also dealt with aesthetic considerations and discussed the selection of suitable materials for prosthetic appliances. Dr. Pound, a native born Canadian, has practised in Los Angeles for 20 years.

The noon hour of the April meeting was enhanced by a presentation of pins and diplomas to 28 dental assistants who successfully completed an evening training program offered by the Manitoba Dental Association.

In B.C.: Advice for New Graduates

Recent graduates in Vancouver and Victoria have profited from a special seminar program sponsored by the Public Relations Committee of the British Columbia Dental Association during the past year. The program brought them together with a group of established general practitioners and specialists for discussion of

practical problems encountered in starting a practice. A further benefit to the new graduates is that they will be able to call on these practitioners for advice or assistance should the need arise.

The lecturers were P. Bokstrom, T. A. Cacchioni, D. W. Findlay, C. R. Hallman, J. L. Hornibrook, E. J. Hyde, G. M. Jinks, W. M. Joiner, R. K. Lindsay, S. Margolese, J. F. Reid, A. E. Swanson and W. R. Upton of Vancouver; also R. L. Horne, S. J. Fisher and M. J. T. Dohan of Victoria.

Kootenay Society Meets in Trail

Dentists of the East and West Kootenays held their spring convention recently in Trail. Guest speakers were Dean S. Wah Leung of the University of British Columbia who spoke on dental recruitment and the dentists' role in this work, and H. G. Pettapiece, president of the British Columbia Dental Association. Dr. Pettapiece described a new adhesive filling material developed by R. H. Roydhouse of the U.B. C. Faculty of Dentistry.

This smiling group was photographed at Vancouver March 2. The occasion: the C.D.A. president's annual western tour. The people (l. to r.): W. R. Upton, executive secretary of the Vancouver and District Dental Society; Rémy Langlois, Canadian Dental Association immediate past president; W. G. McIntosh, C.D.A. secretary; B. M. Plumb, president of the Vancouver society.



B.C. College Elects Council Members

At a meeting of the College of Dental Surgeons of British Columbia held in Vancouver on April 19 the following were elected members of the Council: District No. 1, A. Daysmith and R. L. Horne of Victoria; District No. 2, W. G. Newby of Chilliwack; District No. 3, C. W. Gardner, J. G. Ryan, M. J. Waterman and D. J. Yeo of Vancouver; District No. 4, L. E. English of Kamloops; and District No. 5, W. N. Fraser of Creston.

Canadian Dental Schools

Prof. Selye Named Box Memorial Lecturer

Professor Hans Selye of the Institut de Médecine et de Chirurgie Experimentales, Université de Montréal, will deliver the 1965 Harold Keith Box Memorial Lecture at 8.15 p.m. on October 18 in the auditorium of the Faculty of Dentistry, University of Toronto. Dr. Selye is a world-renowned authority in the field of 'stress.'

NRC Awards to Toronto Faculty

Grants amounting to \$47,150 have been awarded by the National Research Council of Canada to eight University of To-

ronto dental faculty members for the year 1965-66. The grantees and the amounts of their awards are: B. K. Arora, \$800; R. C. Burgess, \$6,950; M. Goldner, \$10,000; R. M. Grainger, \$5,000; A. M. Hunt, \$8,000; M. C. Johnston, \$6,500; M. A. Listgarten, \$9,700; and C. D. Torneck, \$1,000.

Dr. Burgess was also awarded an NRC dental research scholarship and M. Goldner was awarded an NRC dental research associateship.

Dr. Schram Retires from Manitoba Faculty

W. R. Schram, professor of oral surgery at the University of Manitoba, retired on April 30. The first person to be appointed to the oral surgery post, Dr. Schram had been a member of Manitoba's dental faculty since July 1, 1960. Dr. and Mrs. Schram will make their home near Minneapolis, Minnesota.

Lt.-Colonel Richardson Leaves Manitoba U.

Lt.-Col. L. A. Richardson of the Royal Canadian Dental Corps and a visiting associate professor at the University of Manitoba has been posted to Soest, Germany. Lt.-Col. Richardson had been on loan to the Department of Prosthodontology and the School of Dental Hygiene at the Uni-

versity of Manitoba. He now takes up a new three year appointment as commanding officer, No. 4 Field Dental Company, effective August this year.

Dr. Lucas Joins Alberta Faculty

O. N. Lucas has been appointed assistant professor in the Faculty of Dentistry, University of Alberta. Dr. Lucas will be associated with the Department of Physiology.



O. N. Lucas

Dr. Lucas was born in Resistencia Chaco, Argentina. He received a bachelor of science degree in 1951 and was awarded a doctor of odontology degree

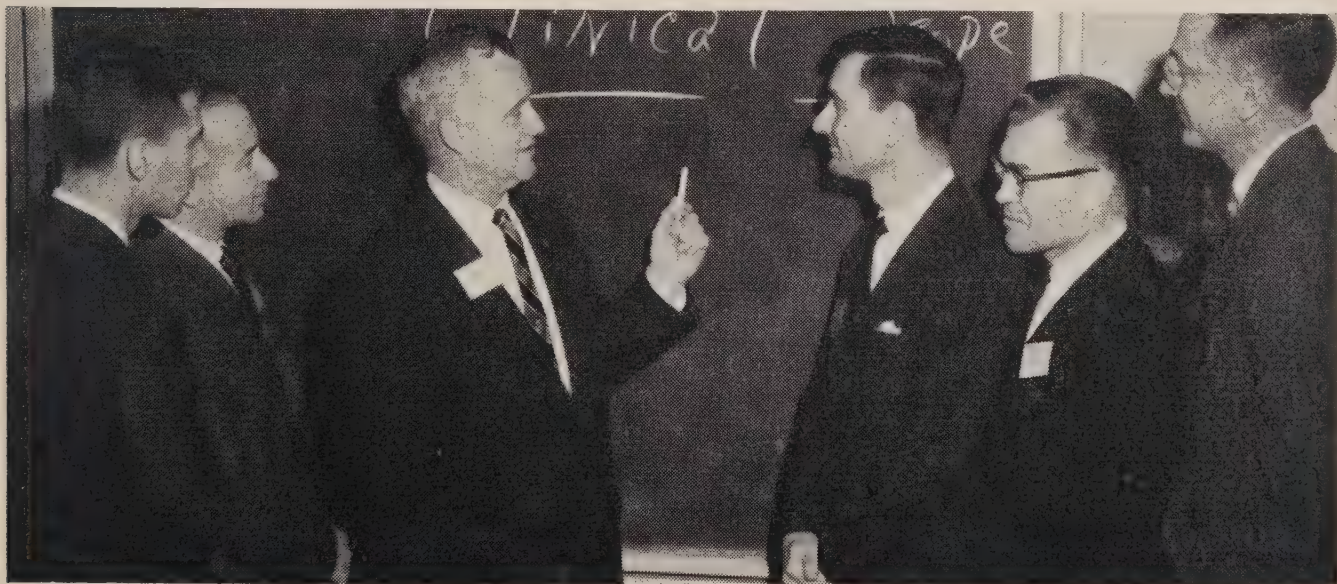
from the University of Buenos Aires in 1958. Dr. Lucas earned a Ph.D. degree at the University of Saskatchewan in 1964. His doctoral study dealt with the influence of emotional factors on spontaneous haemorrhage in haemophilic patients and the influence of the nervous system on experimental haemorrhage in rats.

Royal Canadian Dental Corps

Maj. McKenna Retires

Canadian Forces Headquarters has announced the retirement of Maj. H. E. McKenna of Montreal. Maj. McKenna graduated in 1941 from McGill University. In 1949 he received a Diploma in Public Health from the University of Toronto. Maj. McKenna was commissioned in the Royal Canadian Dental Corps September 1951. During his military career he served at various naval bases, ashore and afloat, R.C.A.F. Stations and in Korea. Maj. McKenna has been stationed at Longue Pointe, P. Que., since July 1960.

S. M. Claman (extreme left) of the University of Manitoba, Winnipeg; F. W. Lovely (third from right) of Dalhousie University, Halifax; and P. T. Smylski (second from right) of the University of Toronto attended a workshop on 'Principles of Undergraduate Education' sponsored by the American Society of Oral Surgeons in Chicago March 5-6, 1965.





Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces, Ottawa, cuts the ribbon officially opening a new Royal Canadian Dental Corps clinic at Jericho, Vancouver, April 14. Brig. E. D. Danby (l.), British Columbia Area Commander, and Col. B. P. Kearney, Western Command Dental Officer, Edmonton, look on. The newly opened dental clinic will serve all regular force military personnel in the Vancouver area.

New R.C.D.C. Clinics in B.C.

Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces, accompanied by Col. B. P. Kearney, Command Dental Officer of Western Command, recently officiated at the opening of new dental accommodation at H.M.C.S. Naden, Esquimalt, British Columbia and at headquarters for the B.C. area in Vancouver.

Officers Attend Professional Training Courses

Maj. J. C. E. McDonald of R.C.A.F. Station, Namao, Alberta, commenced a seven week crown and bridge course on April 19 at the United States Naval Dental School, Bethesda, Maryland.

Maj. J. I. Gordon and **Capt. M. N. Deyette** completed a one week crown and bridge course at the United States Naval Dental School, April 23.

Maj. D. J. MacPhee commenced eight weeks of surgical training under the guidance of A. A. Antoni at The Doctors Hospital, Toronto, April 26.

Capt. Roy Promoted

The Royal Canadian Dental Corps has announced the promotion of **Capt. J. C. R. Roy**, Montreal, to the rank of major. Maj. Roy's promotion became effective April 21. He has been on continuous service since graduation in 1957. Maj. Roy converted to a regular commission in October 1964.

Three Officers Leave the Corps

Captains D. S. Campbell of Kingston, Ontario, and **J. J. Roussel** of Montreal completed their engagement with the Royal Canadian Dental Corps and were released in March of this year. Both officers had

been employed in the Atlantic Provinces where they served the three Services.

Capt. P. A. Dailyde, Toronto, was released from the Corps in April. He recently returned from the Middle East after serving a one year tour with the Canadian Base Units, United Nations Emergency Force. During his service career Capt. Dailyde was employed in No. 11 Dental Company, Edmonton.

Recent Transfers

Capt. R. M. MacDonald of Halifax recently returned to Canada after completing a tour with the Canadian Contingent, United Nations, Cyprus, for employment in No. 13 Dental Company at Trenton, Ont.

Capt. J. A. Nattress, formerly employed at R.C.A.F. Station, Winnipeg, was posted in April for employment with the Dental Detachment, Canadian Base Units, United Nations Emergency Force, Middle East.

Corps Journal Observes 50th Anniversary of the Corps

A recent issue of the *R.C.D.C. Quarterly* commemorates the fiftieth anniversary of the Corps from 1915 to 1965. Interested persons may obtain a copy of this limited edition by writing and enclosing \$1 to the Editor, Royal Canadian Dental Corps Quarterly, Office of the Director General of Dental Services, Canadian Forces Headquarters, Ottawa 4, Ontario.

Economics

Canadian Relative Value System Described at American Health Conference

W. W. Pressey of Toronto was a participant at the 16th National Dental Health Conference held April 26-28 in Chicago. Dr. Pressey, who is a member of the subcommittee on fees of the Canadian Dental Association's Dental Services Com-

mittee, described the relative value system for determination of fees.

National Dental Health Conferences are sponsored annually by the American Dental Association's Council on Dental Health. This year's conference, entitled "Threshold 1965: Dental Health Programs for the Community, State and Nation," embraced availability of services, fluoridation, dental practice, dental health education and prepayment.

Average Denture Fees Quoted

The average fee for one complete upper denture was \$83 in Canada in 1963. The average fee rose \$3 between 1953 and 1958 and \$17 between 1958 and 1963. This represents a 4.4 per cent change between 1953 and 1958, and a 30.7 per cent change between 1953 and 1963. The 1963 figure is subject to revision.

Canadian Caulk Employees Get Dental Insurance

Employees of the L. D. Caulk Company in Canada and the United States are to be covered by a dental insurance plan, company officials have recently announced. Caulk, a division of the Dentists Supply Company of New York, has 23 Canadian employees in Toronto.

The Caulk dental insurance plan will offer complete dental care to employees and their dependants. It is similar to a plan developed in 1959 by the parent Dentsply Company and underwritten by the Continental Casualty Company of Chicago. Under this plan the company bears the full premium expense of the group policy which makes available to all employees coverage for all phases of dental health care. The policy has a yearly deductible clause and each patient pays 20 per cent of his own dental account under a co-insurance clause. The insurance company pays 80 per cent coverage of dental accounts incurred in any given year, within certain prescribed limits.

Beneficiaries are free to select their own dentist who will diagnose, plan and administer treatment. There is no fixed fee schedule and the dentist accomplishes

AN OPEN LETTER TO THE PEOPLE of MANITOBA

WE ARE STILL AWAITING THE OUTCOME
OF OUR GOVERNMENT'S INVESTIGATION
INTO THE "DENTAL ACT" OF THIS PROVINCE

Because of public demand and because of the success that British Columbia and Alberta are having with the Denturists working for the public, we can only expect a favorable report and legislation.

We, the Denturists of this province, would like to take this opportunity to thank the public for the whole-hearted support they have given us over the past few years.

We would also like them to know that their interests are still our interests.

TO REASSURE OUR GOVERNMENT THAT THE PUBLIC WISHES
FREEDOM OF CHOICE WE ASK ONCE MORE FOR YOU TO COM-
PLETE THE FORM BELOW AND MAIL AT ONCE.

In your opinion should denturists continue to render dental
plate services to the people of Manitoba?

YES	☐
NO	☐

Name

Address

*This letter was sponsored by the Association of Dental Technicians of Manitoba
(Denturists), all of whom guarantee satisfaction.*

ROBERT P. KELLY, President.

We Need Your Help - Mail Today!

Mail To: P.O. BOX 1434 WINNIPEG, MAN.

Manitoba denturists (The Association of Dental Technicians of Manitoba) continue to press for recognition as this 7¼ by 11 inch advertisement (I.) in the March 20 Winnipeg Tribune attests. At the same time Saskatchewan denturists (Saskatchewan Denturist Society) make their pitch to the public via this 14 by 21 inch full page advertisement in the April 3 Saskatoon Star - Phoenix (opposite page).

the required treatment at his regular office fees.

Quebec Government Committee Studies Health Insurance

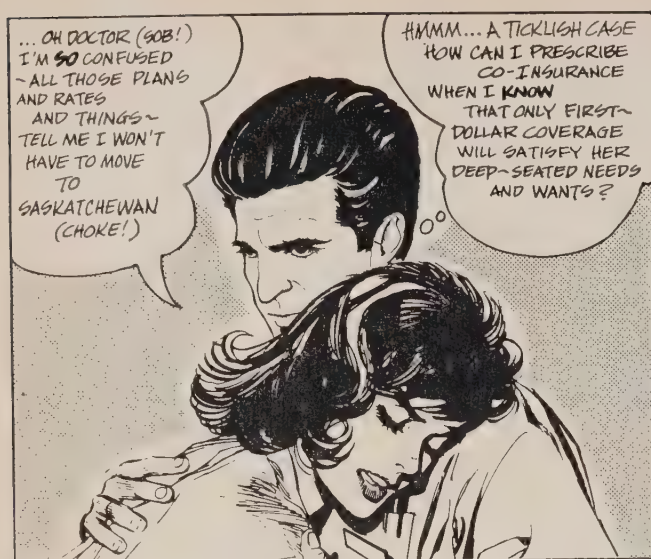
Premier Jean Lesage of Quebec has announced that his government will shortly appoint a special committee on health insurance. Mr. Lesage told the Legislative Assembly on March 23 that this special committee will be asked to assemble basic information for subsequent study by a joint committee of the Quebec Upper and Lower Chambers. The committee will

start to work at the beginning of the next legislative session.

The committee's terms of reference are said to be very broad. It will likely examine all aspects of comprehensive medical insurance, including the costs of dental, pharmaceutical, optometric and other services.

Quebec's Liberal government reportedly intends to launch a comprehensive health insurance plan before the next provincial general election which observers predict for the spring of 1967. The opposition Union Nationale recently adopted a policy resolution urging establishment of a health insurance plan.

DENTURIST SOCIETY OF SASKATCHEWAN
203 Sterling Bldg., Regina, Sask.



By Trevor Hutchings in SATURDAY NIGHT, May 1965. Reprinted by permission.

Dental Prepayment Grows in the U.S.

Dental insurance plans with a wide range of benefits are increasing rapidly, according to the Division of Dental Public Health and Resources, Public Health Service, U.S. Department of Health, Education, and Welfare.

Assistant Surgeon General D. J. Galagan, chief of the Division, recently cited figures showing that the number of insured persons has doubled in the past four years. As of December 1964, more than 1,465,000 persons were enrolled under group dental coverage. In 1960, the total number insured was 732,000. Over the same period, the number of group dental plans jumped from 155 to 409.

Dr. Galagan said this growth represents a significant trend in meeting dental care costs. However, he noted that the potential dental insurance field is virtually untapped when compared to medical insurance. At least three of every four Americans are insured against the cost of hospital care at year-end 1964, according to the Health Insurance Institute. By comparison, fewer than one in every 100 are covered by some type of dental insurance.

Those now being covered by dental insurance are often members of special groups. For example, a number of prepaid dental care plans were developed for labour unions and employers. Others were organized by employee groups. Employer contributions to union welfare funds fi-

nance some plans. Others are supported by matching funds from both employer and employee. In some plans, periodic payments are made by the employee to cover himself and his dependants.

Prepaid dental care plans are usually administered by non-profit dental service groups, insurance companies or group practice. For example, 30 insurance companies are now offering contracts for dental insurance in the United States.

Insurance is also obtained through the dental service corporation. These corporations are organized under the sponsorship of dental societies and operate on a non-profit basis under their guidance. Dental service corporations in nine states are administering prepaid dental care contracts. States with such dental programs are California, Connecticut, Colorado, Hawaii, Michigan, New York, Ohio, Oregon, and Washington.

Altogether, health insurance dental plans of various types are now in operation in 30 states, the District of Columbia, and Puerto Rico.

Utilization of Medical and Dental Services Differs Significantly

A recent survey of health status and medical care in New York City provides significant information on the utilization of dental services. Individuals at the highest levels of income, occupation, and education were more than twice as likely to have seen a dentist than individuals on the lowest level. Significant differences were also revealed when comparisons were made by age and sex. Thus the most frequent utilization occurred among younger, upper socio-economic status women, while the least utilization was made by older, lower, socio-economic status men.

Writing in the April *New York State Dental Journal*, authors of the study, E. A. Suchman and A. A. Rothman, emphasize that "the importance of these social factors for dental care is underscored when we note that variations in medical care as opposed to dental care do not at present relate to socio-economic status." Their study failed to find any appreciable socio-economic variation in use of physi-

cians or hospitals despite the previously reported substantial difference in the use of dentists.

Doctors Suchman and Rothman believe that a more equitable distribution of dental care among high and low socio-economic groups will depend upon the successful development of behavioural patterns of preventive dental care among the lower socio-economic groups. Since preventive health behaviour patterns are formed early in life, they consider the provision of regular dental care to school children in low economic areas as extremely important.

A.D.A. Opposes Non-Professionally Owned Group Practices

The American Dental Association is "unreservedly opposed" to any federal encouragement for the construction of dental practice facilities owned or controlled by non-professional persons or groups. Addressing a U.S. congressional committee March 4, L. I. Kerr, a member of the A.D.A. Council on Legislation, said that the "Association instead encourages the development of acceptable group dental care programs with participation by dentists in private practice." Dr. Kerr explained that the American Dental Association is opposed to group practice facilities owned by a lay group which would hire dentists or physicians on a salary basis (closed panel practice or clinics).

Individual Dental Policy Offered

Mutual of Omaha will soon become the first major insurance company in the United States to offer dental coverage to individuals in the form of a rider to either a new or existing general health insurance policy. Benefits under the rider will be provided, on a scheduled basis, for both accidental injury to and disease of natural teeth or supporting bone or tissue. The policy will not cover orthodontic treatment, space maintenance or treatment for cosmetic purposes unless caused by injuries. The new plan will be introduced in 10 states, California, Illinois, Indiana,

Iowa, Massachusetts, Missouri, Nebraska, Washington, Wisconsin and Utah, and the marketing area will be broadened as experience increases.

Public Health

Dental Care Experiment for Retarded Children in Winnipeg

Dental Care Services of the Manitoba Department of Health are co-operating with the University of Manitoba's Faculty of Dentistry in a unique project which provides the university's dental hygiene students with field experience in the care of retarded children. Begun late last year, the project brings together the student hygienists with retarded children who are treated in a dental office set up in the old St. Boniface Sanatorium.

A triple purpose is served by this experiment. The children, all of them retarded sufficiently to be institutionalized for the rest of their lives, receive a preventive service they would not otherwise get. They are exposed to a dental office setting but, through the approach used by the hygienist, they accept both the environment and the dental service. The experiment also emphasizes that these children can be treated in dentists' offices.

T. L. Marsh, a regional dental director for the provincial health department and also head of the Department of Public Health in the Faculty of Dentistry, has expressed great satisfaction with the progress made in this new venture.

Test New Dental Programs in B.C.

Dental programs in Vancouver and Victoria are increasing their emphasis on preschool children, according to the 1964 annual report of the British Columbia Department of Health Services and Hospital Insurance.

F. McCombie, director of the Department's Division of Preventive Dentistry, also cited figures showing that more than 70 per cent of all five year old children in many rural communities now receive dental care. Seventy-nine rural community

preventive dental programs operated in health unit areas of the province last year. These programs were served by 122 dentists who normally practise in these communities. Five dental public health externs visited a further 55 communities without a resident dentist. Dr. McCombie said that the provision of dental services to such B.C. communities far surpasses anything achieved in any other province of Canada.

Dr. McCombie also noted that in the five largest programs for five year old children the average time required to make each child dentally fit was 2.95 hours. In a program for three year olds, the time spent per child amounted to only 1.9 hours.

The department will gradually extend its extern program to areas where services have previously been provided to Indian children by the Department of National Health and Welfare. Resident community preventive dental programs will be confined to one yearly age group of preschool children — preferably three year old children.

The department has also initiated pilot programs in seven selected communities. These authorize family dentists to provide free diagnostic and preventive services (examination, radiographs, topical application of a fluoride solution, counselling) to three year olds. For this the dentists are reimbursed through the health unit. Parents pay for all other treatment. Similar programs may gradually replace the existing resident community preventive dental programs if experience with the pilot programs is successful.

Fluoridation

Fluoride Tablets Termed 'Worthwhile'

The 60 million Americans not served by community water supplies can benefit from fluoride tablet supplements against dental caries, a consultant told a conference of dental public health officials in Washington April 20.

Representatives from the 50 states and 4 territories, the Public Health Service and

the Children's Bureau, U.S. Department of Health, Education, and Welfare, participated in discussions on the current status and problems in fluoride administration. Panelists discussed fluoridation in small towns, school fluoridation, home fluoridators, surveillance of fluoride levels, and topical fluorides.

F. E. Law, a private consultant and former Public Health Service dental officer, emphasized that fluoridation of water supplies is by far the most effective protection against dental caries now known. In the absence of fluoridated water, however, supplementation by other methods is worthwhile.

In other countries without communal water supplies, he said, protection by fluoride tablet supplements would benefit even greater proportions of the population than in the United States.

"Scientists," Dr. Law said, "have learned that reduction in decay occurs when fluoride is taken during tooth development. Optimal results can be expected if supplements begin shortly after birth and continue to age 12 to 14, when the second molars have erupted."

Elementary school children in North Carolina and Pennsylvania are participating in a seven-year study to find out how effective fluoride tablets will be when taken only during school terms (about half a calendar year). Investigators will also try to discover how to bring the benefits of fluoridation to children never exposed to fluoridated water.

Connecticut Decees Mandatory Fluoridation Regulation

The Connecticut Public Health Council has adopted a regulation which will require all major communities in the state to begin fluoridating their water supplies. All communities in the 20,000 to 50,000 class with fluoride deficient supplies will be required to initiate fluoridation by October 1, 1967. Communities with over 50,000 population will be required to begin by January 1, 1967.

The decree became effective when it was published in the February edition of the *Connecticut Law Journal*. Like all

regulations, this action must be reviewed by the state legislature.

48 Million Americans Have Fluoridated Water

A total of 48,363,066 Americans in 2,758 communities were receiving fluoridated water at the beginning of 1965, the U.S. Public Health Service has reported. In addition, 7,705,998 persons were living in 1,912 communities with naturally fluoridated water.

The largest cities with fluoridation are: Chicago, Philadelphia, Baltimore, Cleveland, Washington, St. Louis, Milwaukee, San Francisco, Pittsburgh and Buffalo. Ten largest cities without fluoridated water are New York, Los Angeles, Detroit, Boston, New Orleans, San Antonio, San Diego, Seattle, Cincinnati and Memphis.

New York has approved fluoridation and is expected to put it into operation in early spring. Detroit city council also has approved the measure, but action has been delayed until a referendum in November of this year.

Research

New Adhesive Filling Materials on The Way

Public curiosity is mounting over the anticipated introduction of new adhesive filling materials for restorative dentistry. This interest is reflected by the growing attention accorded the subject by mass communication media. Here, for example, is what the *Wall Street Journal* had to say in a front page column on March 5:

"... These materials, already being tested on patients, are designed to be adhesive, unlike most other materials now in use which have to be 'locked' into cavities.

"To lock in a filling a dentist normally must make the interior of a cavity wider

than its opening But with one of the new materials, developers claim, the dentist can just clean the cavity, relying on the material's adhesiveness to keep the filling in place. . . . By sticking flush to tooth surfaces the new materials all but eliminate a big cause of decay in old fillings — the seepage of corrosive mouth fluids under filling edges.

"Originally, researchers figured that the adhesive materials now being tested would be used mainly for fillings in the front teeth, because they lacked enough abrasion resistance for back teeth. But Dr. Richard Roydhouse [of the University of British Columbia] says he has come up with a toughened version . . . which can be used in all teeth.

"Some researchers believe that efforts to find adhesive fillings may one day lead to a material that can eliminate cavities altogether. Dr. Michael Buonocore of Buffalo is testing a thin adhesive coating that hardens after being applied to biting surfaces. It is supposed to prevent decay from forming in natural crevices in much the same way paint keeps metal from rusting. Results of two years of testing show that the material 'is very effective,' says Dr. Buonocore."

Awards and Honours

J. D. Spouge of the Department of Oral Biology of the Faculty of Dentistry and the Department of Pathology of the Faculty of Medicine, University of British Columbia, has been awarded a fellowship in the American Academy of Oral Pathology.

I. K. Farrer and **P. L. Bennell** were recently honoured by the Saint John, New Brunswick Dental Society. Both dentists have completed 50 years of practice.

H. K. Brown, former dental consultant to the Department of National Health and Welfare and currently with the Faculty of Dentistry, University of British Columbia, was elected an honorary life member of the Canadian Public Health Association at the CPHA annual meeting in Edmonton, May 31-June 3.

L'Association

On demande des cliniciens canadiens aux réunions à l'étranger

Les dentistes canadiens qui voudraient agir comme cliniciens, présenter un travail ou tenir une clinique à une réunion de dentistes à l'étranger, sont priés d'en aviser l'Association dentaire canadienne. Les associations dentaires des autres pays demandent constamment à l'A.D.C. de participer à leurs travaux scientifiques.

Les intéressés sont priés d'aviser le secrétaire de l'A.D.C. du titre et du genre de travail qu'ils se proposent de donner, en écrivant à W. G. McIntosh, secrétaire, l'Association dentaire canadienne, 234, rue St-Georges, Toronto 5, Ontario.

Canada

Le Comité de la Législature manitobaine sur les 'denturistes' continue son travail

La Législature du Manitoba a accordé à son Comité enquêteur sur les agissements des denturistes une autre année d'étude avant la présentation de son rapport. Même s'il croit que le rapport puisse être déposé avant la fin de la présente session, le ministre de la Santé, C. H. Whitney s'est opposé à ce que la Législature l'exigeât.

Ce Comité fut institué l'an dernier afin d'étudier la question à savoir si l'on devait ou non accorder aux denturistes le droit de fabriquer et de vendre des prothèses directement au public.

Deux projets de loi avortent en Colombie britannique

Cyril Shelford, député de Omineca à la Législature de la Colombie britannique présenta récemment un projet pour amender la Loi des Techniciens dentaires en permettant aux mécaniciens dentaires de faire des prothèses partielles et des prothèses immédiates. Il soumit également un autre projet pour amender la Loi des Dentistes en leur permettant la collaboration avec des mécaniciens pour l'extraction des dents. Et ce en vue de prothèses immédiates fabriquées par ces mécaniciens.

Ces deux projets ne se rendirent pas en seconde lecture.

Chronique internationale

Rapport de la mission envoyée en Nouvelle-Zélande par la Saskatchewan

Le rapport des observations faites par la mission envoyée en Nouvelle-Zélande par la Saskatchewan vient d'être publié.

Les membres de cette mission étaient:

Le Dr J.J. Schachter, orthodontiste, de Saskatoon; le Dr A.E. Chegwin, alors directeur de la division dentaire du Département de la santé publique de la Saskatchewan, M. C.M. MacKay, assistant-directeur (comptabilité), division de l'administration des hôpitaux, Département de la santé publique, Saskatoon.

Au cours des deux semaines de sa tournée en Nouvelle-Zélande, la mission, suivant les instructions reçues, enquêta sur l'emploi et l'entraînement des infirmières dentaires, la valeur de leurs

suite à la page 418

La Commission royale sur la santé

Dans le second volume de son rapport sur la santé publique, publié le 18 février, la Commission royale d'enquête sur les services de santé décrit l'organisme fédéral et provincial requis pour mettre en opération un programme accessible à tous, rencontrant le plan recommandé dans son premier volume publié en juin 1964, pour un service de santé gratuit ou pré-payé.

Ce deuxième tome contient quatre recommandations importantes:

Sectionner le Ministère; de la santé nationale et du bien-être social en deux organismes distincts;

Etendre considérablement les services de santé dans les territoires nord-canadiens; les nouvelles commissions provinciales des services de santé devraient prendre en main les services actuels d'assurance-hospitalisation et les opérer comme partie intégrante de leur service de santé;

Augmenter considérablement les subside consacrés à la recherche.

La Commission, présidée par M. le juge Emmet M. Hall, signala de nouveau l'importance de ne pas hésiter à donner au personnel sanitaire un entraînement intensif.

Ce rapport traite longuement du personnel para-médical: diététiciens; conservateurs de dossiers médicaux; techniciens de laboratoire, salles de radiologie et d'opérations; techniciens en électro-encéphalogramme et cardiogramme; physiothérapeutes; thérapeutes des mouvements, du parler et de l'ouïe; travailleurs médicaux-sociaux. Il s'intéresse aussi à un autre personnel sanitaire: les optométristes, opticiens, chiropraticiens, naturopathes et osteopathes.

Référant à la confusion existant dans l'esprit des gens au sujet du titre de 'docteur' employé abusivement, la Commission recommande qu'une loi soit passée prohibant à tout individu quel que soit l'art de guérir qu'il exerce, de se dire

'docteur' à moins d'en avoir reçu le titre d'une université, ou encore de faire suivre son nom de lettre ayant le même effet, ou de s'annoncer comme tel.

La Commission affirme que le programme qu'elle préconise ne sera pas un seul plan monolithique et unifié, opéré par le fédéral, mais celui de dix provinces avec en outre le Yukon et les Territoires du Nord-Ouest. Ces programmes seront opérés par les provinces, mais avec une coordination du fédéral.

Les organismes qui régiront la mise en application de ce programme sont:

Une conférence annuelle des ministres de la santé du fédéral et des provinces qui pourra être suivie d'autres réunions nécessaires à une commune politique et à la discussion des problèmes sanitaires concernant toute la communauté;

Un comité fédéral et provincial coordonnant les services sanitaires, composé des chefs des départements provinciaux de la santé et des soins médicaux et du sous-ministre fédéral de la santé et du bien-être;

Un conseil en recherches scientifiques sur la santé qui sera le principal conseiller du gouvernement fédéral pour diriger les sujets de recherches et pour allouer les sommes nécessaires;

Un conseil canadien de la santé dont les membres seront choisis par le fédéral parmi un groupe de personnalités suggérées par les corps professionnels, les agences bénévoles, les associations de commerce, de travail et d'agriculture.

Ce conseil canadien de la santé aura pour but l'amélioration et l'extension des services, les recommandations des subside échelonnés sur une longue période, la coordination de la politique des organismes professionnels et bénévoles avec celle du gouvernement; enfin la coopération avec les organismes sanitaires provinciaux, les commissions de soins sanitaires et les départements de la santé.

soins dentaires et sur l'amélioration de la santé dentaire des enfants et du coût de ce service.

Chaque membre fit un rapport particulier. Celui du Dr Chegwin concluait: "En somme . . . le programme de la Nouvelle-Zélande, malgré ses imperfections, semble offrir plus d'avantages que de désavantages, compte tenu de tout." Le Dr Schachter se montre plus spécifique. Il constate que "la denture des enfants et des adolescents est en parfait état de santé. "L'infirmière dentaire de la Nouvelle-Zélande travaille de façon favorablement comparable à celle de la généralité des dentistes. Cependant, ses notions sur la denture des enfants sont limitées, de même que ses méthodes cliniques. On lui défend de faire autre chose que ce qui lui a été enseigné, ce qui est peu, et elle n'a personne qui puisse l'aider quand surgit une difficulté. Elle ne reçoit pas un enseignement adéquat en diagnostic, mais cependant c'est à elle uniquement que l'enfant sera confié jusqu'à son adolescence. Elle n'est pas en mesure de se rendre compte d'anomalies dentaires, de sorte qu'il lui est impossible d'appliquer des mesures préventives."

M. MacKay, lui, fait les suggestions suivantes: "Je suis d'avis que les opinions et les renseignements qui m'ont été fournis me permettent de préparer un estimé préliminaire établissant le coût d'un programme d'éducation et de soins dentaires, semblable ou même différent de celui de la Nouvelle-Zélande, pour les enfants de cette province, et je suggère de baser cet estimé sur une période de 20 ans, tel qu'en Nouvelle-Zélande. Je serais heureux de voir se former un comité représentant le Collège des chirurgiens dentistes, le Département de l'éducation et celui de la santé, pour participer au perfectionnement de ce projet."

Copie de ce rapport peut être obtenue de la bibliothèque de l'Association dentaire canadienne.

Conférence dentaire nord-américaine et soviétique avant la F.D.I. de Vienne

Une conférence nord-américaine et soviétique ayant pour objet les soins et les maladies dentaires aura lieu du 23 au 26

juin à l'Université de Moscou, précédant immédiatement la 53ème séance annuelle de la Fédération dentaire internationale de Vienne qui aura lieu du 26 juin au 3 juillet. La conférence de Moscou est la première du genre qui groupera des dentistes du Canada, des Etats-Unis et de l'URSS. Les dentistes nord-américains séjourneront à Tbilisi, capitale de la Georgie, à Kiev, capitale de l'Ukraine où ils visiteront une clinique et une faculté dentaires et à Leningrad avant de se rendre à Moscou et à Vienne.

Le Congrès dentaire de Paris, 22-28 novembre

Les dentistes canadiens sont priés d'assister au Congrès international des dentistes qui se tiendra à Paris du 22 au 28 novembre (39^{es} Journées Dentaires Internationales de Paris). Les séances auront lieu à la Maison de la Chimie. Il y aura traduction simultanée en quatre langues. On pourra y voir une vaste exposition dentaire commerciale. Pour plus amples renseignements, s'adresser à J.P. Cavailon, 58 rue du Maréchal Foch, Versailles, France.

L'American Dental Association tient ses assises à Las Vegas, du 8 au 11 novembre.

Plus de 20,000 dentistes et représentants de sociétés dentaires sont attendus à la 106^e session annuelle de l'Association dentaire américaine, à Las Vegas, du 8 au 11 novembre prochains.

Les travaux scientifiques seront donnés au Centre des congrès de Las Vegas. Y participeront 700 professeurs, scientifiques et praticiens.

Les dentistes qui voudraient y présenter des travaux cliniques, (20 minutes, avec diapositives), des cliniques, des exhibits scientifiques ou des films, peuvent écrire à l'A.D.A. Council on Scientific Session, 222 East Superior Street, Chicago, Illinois 60611, É.-U.

Il faudra spécifier le type exact d'exhibitor ou le sujet particulier que l'on entend traiter. On peut prendre part à des sujets différents, mais il n'est pas permis

de présenter deux travaux sur le même sujet, tels deux essais cliniques. Cependant, c'est sur invitation particulière que l'on pourra présenter une conférence scientifique.

Le programme préliminaire de la session scientifique sera publié dans l'édition d'août du *Journal de l'Association dentaire américaine*.

Dès maintenant on prévoit: une conférence sur le journalisme; une conférence nationale sur l'éducation des patients; un forum de trois jours et demi sur la prudence qui s'impose dans la solution des problèmes de la dentisterie opératoire; un autre également de trois jours et demi sur la prothèse complète et partielle; deux colloques sur la recherche en dentisterie avec applications cliniques — substances adhésives et implantation de dents; une table ronde sur la dentisterie préventive; un colloque sur l'utilisation de l'or comme substance d'obturation; trois séances sur l'administration de l'exercice de la profession — l'entraînement du personnel, l'utilisation de l'outillage et les soins dentaires pré-payés; une table ronde sur l'application topique des solutions de fluorure; des sessions sur la chirurgie buccale, la périodontie, l'orthodontie et la radiologie.

En outre, des cliniques théoriques, des cliniques de table, des cliniques télévisées, sont au programme.

Pour plus amples renseignements, s'adresser à Harold Hillenbrand, secrétaire, l'Association dentaire américaine, 222 East Superior Street, Chicago, Illinois 60611, É.-U.

Le Congrès mexicain en novembre

Les dentistes canadiens sont invités au congrès de l'Association dentaire mexicaine qui se tiendra à Mexico du 14 au 18 novembre. Cet événement fait coïncider le 1er Congrès international dentaire du Mexique avec le 8ème Congrès national de l'Association dentaire. Les séances auront lieu au Unidad de Congresos del Seguro Social à Mexico même.

Traduction simultanée sera faite en français, en anglais et en espagnol. Pour plus amples renseignements, écrire à Raul

Espinosa de la Sierra, Sinaloa No. 9, Mexico 7, D.F., Mexique.

Organismes dentaires

1ère réunion de l'Académie des Endodontistes

La première séance de l'Académie canadienne d'endodontie fut tenue conjointement avec le Cercle d'études endodontaires de Toronto les 26 et 27 mars derniers. E. M. Madlener et C. D. Torneck de Toronto, B. Sedlezky de Montréal (remplaçant W. Johnson), et L. J. Fenech de Windsor furent les conférenciers du 26 mars. Le Dr Madlener traita du rôle des micro-organismes, causes des infections endodontaires; le Dr Torneck du même rôle suivant le traitement rémédiateur; le Dr Sedlezky de l'élimination des micro-organismes pendant le traitement endodontaire et le Dr Fenech de l'obturation des canaux radiculaires par diverses techniques. Herbert Schilder, de Boston, fut l'orateur invité le 27 et traita des rapports entre les maladies périodontaires et endodontaires.

Le même exécutif fut réélu à l'Académie canadienne d'endodontie. Donc, G. C. Hare, de Toronto, garde la présidence jusqu'à la prochaine séance annuelle qui aura lieu lors du congrès national de l'Association dentaire canadienne à Halifax en juin 1966.

Economie

Moyenne du coût des prothèses

La moyenne du coût d'une prothèse complète pour la machoire supérieure était de \$83 au Canada en 1963. Elle augmenta de \$3 entre 1953 et 1958 et de \$17 de 1958 à 1963. Cette hausse se chiffre à 4.4 pour cent pour la première période et à 30.7 pour cent pour la seconde. Le chiffre de 1963 est sujet à révision.

Un comité du gouvernement québécois sur l'assurance-santé

Le Premier ministre du Québec, l'Honorable Jean Lesage, annonce que son gouvernement établira sous peu un comité spécial sur l'assurance-santé. Le 23 mars, il déclara à la Législature que ce comité serait chargé de compiler toutes les informations à ce sujet, et devant servir à l'étude qui en sera faite par un comité conjoint des deux Chambres, qui se mettra à l'ouvrage dès l'ouverture de la prochaine session.

Ce comité possède une très grande liberté d'action et peut étudier tous les aspects de l'assurance-santé, incluant le coût des services dentaires, pharmaceutiques et optométriques.

Le gouvernement libéral du Québec, rapporte-t-on, se propose de lancer un très vaste programme d'assurance-santé avant les prochaines élections prévues pour 1967, tandis que le parti d'opposition de l'Union Nationale a récemment adopté l'assurance-santé comme un article important de sa politique.

Les employés canadiens de la compagnie Caulk assurés pour les soins dentaires

Les directeurs de la compagnie L. D. Caulk, opérant au Canada et aux Etats-Unis, ont annoncé récemment que leurs employés seraient protégés par une assurance pour les soins dentaires.

Le plan offert par la compagnie à cet effet couvre tous les soins dentaires aux employés et à leurs dépendants. Il est semblable à celui qui a été convenu en 1959 entre la Dentists' Supply Company of New York et la compagnie d'assurance Continental Casualty de Chicago. En vertu du contrat, la compagnie paie la prime de l'assurance-groupe qui couvre tous les soins dentaires de ses employés. La police contient une clause conjointe d'assurance par laquelle l'assuré paie 20 pour cent du montant des frais encourus pendant une année et la compagnie d'assurance en paie 80 pour cent, mais avec certaines restrictions cependant.

Les assurés ont le libre choix de leur dentiste qui établira le diagnostic et donnera les soins requis, sans restriction

quant au montant habituel de ses honoraires.

L'assurance couvrant les soins dentaires prend de l'expansion aux Etats-Unis d'Amérique

Le Service de santé des Etats-Unis (Département de la santé, de l'éducation et du bien-être), section de l'hygiène dentaire, rapporte que l'assurance couvrant les soins dentaires progresse rapidement.

L'assistant-chirurgien général et chef de cette section, D. J. Galagan, citait récemment des chiffres montrant que le nombre des assurés avait doublé au cours des quatre dernières années. En décembre 1964, plus de 1,465,000 personnes étaient protégées par assurance-groupe pour le paiement des soins dentaires. En 1960, leur nombre n'était que de 732,000. Pendant cette même période, le nombre des groupes est passé de 155 à 409.

Le docteur Galagan ajoute que cette augmentation montre bien la tendance des gens à prévoir le coût des soins dentaires. Cependant, dit-il, le vaste champ de l'assurance dentaire n'a pas été sérieusement exploité si on le compare à celui de l'assurance santé. A la fin de 1964, au moins trois américains sur quatre portaient une assurance pour les soins hospitaliers, d'après le rapport du Health Insurance Institute, tandis que moins d'un sur 100 n'est couvert par semblable assurance pour les soins dentaires.

Ceux qui le sont, pour la plupart, font partie de groupes formés par les syndicats en collaboration avec les patrons ou par les travailleurs eux-mêmes. Dans certains cas, la contribution de l'employeur au fonds de bien-être sert au syndicat pour financer un groupe. D'autres le sont par les contributions des employés et du patron. Il est à noter que certains travailleurs paient périodiquement des primes qui les assurent ainsi que leur famille.

Ces assurances-groupes sont administrées par des associations dentaires opérant sans profits, des compagnies d'assurance ou d'assurance-groupe. Trente compagnies d'assurance aux Etats-Unis émettent des polices pour soins dentaires.

L'on peut aussi obtenir pareille police

de corporations dentaires instituées sous l'égide et la direction des sociétés dentaires et opérant sans profits, dans neuf états américains qui sont: la Californie, le Connecticut, le Colorado, Hawaii, le Michigan, New York, l'Ohio, l'Orégon et Washington.

Bref, sous diverses formes, l'assurance dentaire existe actuellement dans 30 états américains, de même que dans le district de Columbia et à Porto Rico.

Un dentiste élu fiduciaire du Illinois Medical Service Corporation

On apprend de Chicago qu'un dentiste vient d'être élu membre du Bureau des fiduciaires du Illinois Medical Service Corporation: O.K. Johnson, professeur de clinique en chirurgie buccale et maxillo-faciale au Collège de chirurgie dentaire de l'Université de l'Illinois, à Chicago.

Le recours aux soins médicaux l'emporte sur le recours aux soins dentaires

Une enquête récemment tenue à New York sur l'état de la santé et des soins médicaux fournit d'importants renseignements concernant les soins dentaires. Le nombre de ceux qui ont consulté un dentiste est plus que le double chez les gens aisés que chez les moins fortunés. On a constaté aussi des différences par sexe et par âge. On a trouvé beaucoup plus de patients chez les jeunes femmes de la classe aisée et beaucoup moins chez les hommes plus âgés et moins fortunés.

E.A. Suchman et A.A. Rothman, auteurs d'une étude parue dans le *New York State Dental Journal*, en avril, prétendent qu'il ne faut pas attacher trop d'importance à l'état social et économique des individus même si l'on se rend compte que la différence existant entre le soin que l'on a de sa santé et celui que l'on a de ses dents n'est pas due à l'état de fortune ou d'éducation. Leur étude n'a pas démontré de différence sociale ni économique appréciable entre les patients qui ont recours aux médecins et aux hôpitaux, bien qu'on en ait démontrée une considérable entre ceux qui ont recours aux dentistes.

Ces deux enquêteurs croient que les gens prendront meilleur soin de leurs

dents, quelle que soit leur condition économique ou sociale, si on propage l'importance des soins dentaires préventifs, particulièrement chez les gens à revenu modeste. Puisque l'habitude de prendre soin de sa santé doit être acquise très jeune, ils considèrent comme extrêmement importante toute mesure tendant à donner régulièrement aux enfants des écoles les soins dentaires requis.

Polices d'assurance dentaire offertes aux particuliers

La Mutuelle d'Omaha sera bientôt la première compagnie d'assurance aux Etats-Unis à offrir aux particuliers protection pour les soins dentaires par un proviso ajouté soit à ses polices déjà en vigueur, soit à ses nouvelles polices d'assurance-santé. Les indemnités, d'après ce proviso, seront accordées suivant une échelle déterminée, pour accident ou maladies usuelles des dents, maxillaires ou gencives. Cette assurance ne couvre pas les traitements orthodontiques, l'écartement et l'alignement des dents, sauf si nécessités par suite d'un accident. Dix états pourront obtenir tel contrat. Ce sont: la Californie, l'Illinois, l'Indiana, l'Iowa, le Massachussets, le Missouri, le Nebraska, Washington, le Wisconsin et l'Utah. La compagnie y ajoutera d'autres territoires à la mesure de sa réussite.

Hygiène publique

Expérimentation faite à Winnipeg au sujet des soins dentaires aux enfants arriérés

Les services de soins dentaires du Département de la santé du Manitoba, en coopération avec la Faculté dentaire de l'université de cette province, expérimentent un service qui fournit aux étudiants en hygiène dentaire une expérience pratique en prenant soin des enfants arriérés mentaux. Commencée l'an dernier, cette expérimentation met en contact les étudiants en hygiène avec les enfants arriérés. Ils traitent ces derniers dans un cabinet dentaire installé dans le vieux sanatorium de St-Boniface.

Les deux organismes poursuivent un triple objectif. Les enfants souffrant de retard mental assez grave pour nécessiter l'hospitalisation définitive reçoivent ainsi des soins qu'ils n'auraient pas autrement. Ils doivent affronter le dentiste et ses instruments, mais ce dernier sachant les apprivoiser, ils acceptent plus facilement et le décor, et les soins. Enfin, cette expérience sert à démontrer que ces enfants peuvent être traités dans un cabinet dentaire ordinaire.

T. L. Marsh, directeur régional dentaire pour le département provincial de la santé et chef du département de l'hygiène publique à la Faculté dentaire s'est montré très heureux des progrès accomplis par cette nouvelle tentative.

Un nouveau programme dentaire expérimenté en Colombie britannique

D'après le rapport annuel, 1964, du Département de la santé et de l'assurance-hospitalisation en Colombie britannique, le programme dentaire s'efforce, à Vancouver et à Victoria, d'atteindre les enfants qui n'ont pas encore l'âge scolaire.

F. McCombie, chef du Département de la santé, division de la dentisterie préventive, cite des chiffres démontrant que 70 pour cent de tous les enfants de cinq ans, dans plusieurs municipalités rurales, reçoivent maintenant des soins dentaires. Soixante-dix-neuf municipalités rurales

mirent à l'œuvre le même programme l'an dernier par l'intermédiaire de 122 dentistes qui y exercent leur profession. Cinquante-cinq autres municipalités, sans dentiste résidant, eurent les services de dentistes de l'extérieur. Le Dr McCombie prétend que tel service dépasse tout ce qui a été fait pour les soins dentaires dans toutes les autres provinces.

Il ajoute que le temps employé pour mettre en bon état la denture de chaque enfant n'a pas dépassé 2.95 heures. Pour les enfants de trois ans, cela a pris 1.9 heure.

Le Département élargira peu à peu ce programme aux territoires où déjà les mêmes soins ont été donnés aux enfants indiens par le Ministère fédéral de la santé et du bien-être. Les municipalités ayant un programme de soins dentaires préventifs borneront leur attention, chaque année, aux enfants d'âge préscolaire, mais surtout aux enfants de trois ans.

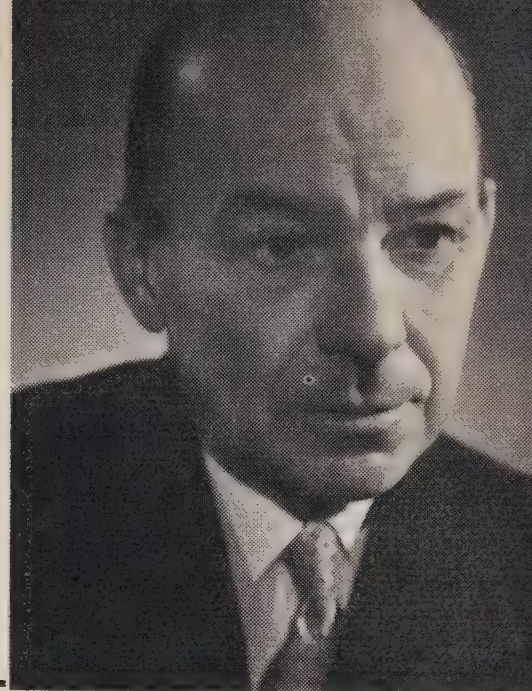
Le Département a aussi commencé un projet-école dans sept municipalités déterminées, plan qui prévoit un diagnostic et des soins préventifs gratuits pour les enfants de trois ans, comprenant examens, radiographies, applications topiques de solutions de fluorure, avis médical, lesquels soins sont payés par l'unité sanitaire. Les parents, eux paient tous les autres traitements.

Si ce projet réussit, il remplacera peu à peu les services dentaires préventifs existant déjà dans les municipalités.

"En réponse à votre enquête dentaire, les dents de devant vont très bien; mais les dents de mon derrière me font très mal." (Et un cas anatomique par-dessus le marché!) — Le chirurgien dentiste de France.

Hommage au Dr Paul Geoffrion

*J. Albéric Guay, D.D.S.,
Trois-Rivières, P.Qué.*



Gaby

La Société dentaire de Montréal rendait hommage récemment à un de ses membres fondateurs dans les termes suivants:

Quand nous reconnaissons le dévouement et le travail professionnel d'un confrère, c'est souvent à titre posthume. Nous ferons donc une exception à cette règle en vous faisant part des principaux événements qui ont illustré la carrière de pionnier du Dr Paul Geoffrion.

Gradué en 1922, magna cum laude, de l'Ecole dentaire de Montréal, le Dr Paul Geoffrion étudia l'orthodontie durant un an et demi aux Etats-Unis. A cette époque la chirurgie dentaire était considérée comme une sorte de 'métier supérieur.' Le Dr Geoffrion eut la clairvoyance de monter un échelon de plus au sein de sa profession et de ce fait, orienter la chirurgie dentaire vers un niveau supérieur.

Premier orthodontiste canadien-français, il étudia avec Martin Dewey et fut condisciple de tous les maîtres de notre époque. Il a suivi l'évolution des méthodes d'examen et des moyens thérapeutiques pour être séduit finalement par la méthode de Johnson.

Il commença à pratiquer l'orthodontie à Montréal en 1923. Il n'avait alors que deux confrères: les docteurs Hyans et McClelland, pratiquant tous deux la même spécialité. Le Dr Geoffrion n'a jamais cessé depuis lors de travailler à

l'essor de sa profession.

Un de ses premiers gestes fut de grouper les dentistes de Montréal dans le but d'une entraide professionnelle. C'est ainsi que fut formée la Société dentaire de Montréal, ayant comme membres fondateurs les docteurs J. A. Pineault, J.P. Lanthier et Paul Geoffrion. Le but ultime de sa vie fut l'organisation chez nous, du département d'Orthodontie. Ce département, qui fait rayonner l'Université de Montréal à l'étranger, fut fondé par lui en 1944. Trois années plus tard, soit en 1947, on reconnaissait déjà le cours d'étude post-scolaire en orthodontie de notre Faculté grâce au travail et à la haute renommée du Dr Geoffrion.

Son dévouement, loin de s'arrêter là, se manifeste depuis, à la Faculté de chirurgie dentaire et partout dans le monde.

En 1950, un groupe de confrères français, sous la direction du Dr Albert Beauregardt, professeur d'Orthopédie dento-faciale à l'Ecole dentaire de Paris, voulut se rendre compte des immenses progrès d'outre-Atlantique. Le Dr Beauregardt écrivit aux doyens de plusieurs facultés dentaires.

Une réponse l'a touché entre toutes; celle du Dr Geoffrion: "Je serais très heureux de vous recevoir pour un séjour de deux semaines dans mon département d'orthodontie. Le meilleur temps serait en

octobre, alors que notre clinique fonctionne à pleine capacité." N'est-ce pas là la réponse d'un homme avide de communiquer ses connaissances à ses confrères? Le Dr Beauregardt ajoute: "Il nous donna son temps infiniment précieux tant dans son service à la Faculté qu'en son cabinet privé." Ceci démontre bien le dévouement qu'il porte à sa profession et aussi son ardeur au travail.

Ce groupe de confrères d'outre-mer retournèrent fort enthousiasmés de leur séjour au Canada. Ceux-ci prièrent le Dr Geoffrion d'aller leur enseigner en France la méthode du Twin-Arch de Johnson. Cédant aux sollicitations pressantes de ses admirateurs, il partit pour l'Europe où il leur enseigna la méthode de Johnson à l'Ecole dentaire de Paris et à l'Université d'Istamboul. C'est aussi lors de son voyage en Europe qu'il promit d'écrire un livre pour expliquer en détail la méthode qui l'avait séduit dès le début.

En 1956, son livre fut édité pour la première fois en français, par Julien Prélat de Paris. Il avait pour titre *La Méthode J. E. Johnson Twin-Wire Arch*.

En 1962, le Dr Geoffrion sollicité par ses amis anglais et américains publia un autre volume en langue anglaise qui avait pour titre *Clinical Application of the Twin-Wire Arch*. Cette édition anglaise eut tellement de succès qu'elle fut traduite en langue italienne par la maison d'Edition Rex de Florence et ensuite en langue française par l'Editeur Julien Prélat de Paris. Une traduction espagnole paraîtra en Septembre prochain et sera éditée par la compagnie Editorial Científico Medico Espanôla de Madrid.

C'est le seul dentiste canadien-français à jamais avoir écrit un ouvrage didactique d'envergure mondiale. Pourquoi n'a-t-on pas noté ce fait lorsque notre Faculté célébra son 60ième anniversaire d'existence? Un oubli sans doute. Pourquoi ces volumes ne sont-ils pas étalés dans le département d'orthodontie, quand à un certain endroit on pouvait voir de la littérature sur cette spécialité de la chirurgie dentaire? De l'humilité sans doute.

Comment peut-on oublier si facilement un homme qui a consacré sa vie à sa profession et qui a fait rayonner sa spécialité et son Université dans le monde entier.

Son département ne reçoit-il pas des étudiants de plusieurs pays? Je me souviendrai toujours de cette parole du Dr Louis I. Grossman du Pennsylvania University de Philadelphie qui disait en 1960: "Le Docteur Paul Geoffrion est l'un des plus grands orthodontistes au monde à l'heure actuelle."

Ses voyages, ses connaissances, son travail ardu et son esprit civique l'ont forcé à accepter tour à tour soit des charges, soit des honneurs. Il a été membre d'une foule de sociétés et entre autres: American Association of Orthodontists, Northeastern Society of Orthodontists, Société française d'orthopédie dento-faciale, Academia Internationale de Odontologia, Montreal Society of Orthodontists. Il est aussi membre honoraire de l'Académie Pierre Fauchard, de la Société dentaire d'Haiti, de l'Association dentaire de Turquie, de la Société d'odontologie de Paris, de l'International Academy of Medicine and Dentistry. Il est de plus Fellow of the American College of Dentists, et Gouverneur de l'Académie canadienne des sciences dentaires.

Il fut aussi Président du 3ième Congrès des chirurgiens dentistes de langue française de l'Amérique du Nord, Président de l'Association des anciens élèves du Collège de l'Assomption et Vice-Président de la New York Society of Orthodontists.

Sa carrière dans l'enseignement se continue toujours. Il est professeur et directeur du département d'orthodontie de l'Université de Montréal depuis sa fondation, professeur honoraire de l'Ecole dentaire de Paris, membre de l'Académie nationale de chirurgie dentaire de France. Il fut doyen de la Faculté de chirurgie dentaire de l'Université de Montréal. Il a déjà donné des cours à l'Université de Boston.

Il a reçu les décorations d'officier de l'Ordre 'Honneur et Mérite' et est commandeur de l'Ordre de la Couronne de Charlemagne. Tout récemment l'Université de Montréal reconnaissait ses nombreux mérites en lui décernant un doctorat 'Honoris Causa.'

Au nom de tous, longue vie, santé, bonheur au sein de ses confrères et félicitations pour tant de travail accompli.

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Professional and public attitudes on dentistry in Ontario

The Ontario dental profession, with more than 2,600 practitioners, is on the threshold of substantial internal and external changes.

The Woods Gordon report, a management consultant study conducted in 1963 at the request of the Royal College of Dental Surgeons of Ontario and the Ontario Dental Association, calls for a broad reorganization involving the R.C.D.S., the O.D.A., and local dental societies.

The Report of the (Hall) Royal Commission on Health Services (Volume I) makes a number of recommendations for enhancing dental services. The report essentially concurs in its philosophy, approach and specific proposals with a joint brief made to the Commission last year by the R.C.D.S. and O.D.A. But the Commission does go beyond the profession's thinking in proposing clinic treatment of children by auxiliaries under dentists' supervision.

The Ontario Dental Association therefore asked the Canadian Institute of Public Opinion to undertake two studies in January this year. Purpose of these surveys was to determine the current thinking of dentists in these matters; to study dental practices and attitudes in general; and to sample public reactions, particularly in regard to children's dental care.

Sixty-seven per cent of Ontario dentists—1,736 of them in private practice—answered 82 questions in a comprehensive questionnaire mailed to them in January. At the same time CIPO interviewers polled 761 mothers in their own homes on 15 multi-part questions. Mothers were considered to have prime responsibility for children's dental care and the homes were selected scientifically to assure a random probability sample of all Ontario homes with children two years of age or older.

These two studies are of considerable interest because Ontario dentists and the people of this province are such sizeable components of the Canadian picture. The findings are summarized below.

PROFESSIONAL IMAGE AND FEES

Mothers polled in this study held the dentist in high esteem. Dentistry was one of the four pursuits they would most like their sons to follow. It was cited more often than law, less frequently than medicine or engineering. In smaller centres where dentists are needed most, mothers ranked dentistry and medicine equally as first choice.

About 43 per cent of the mothers thought dental fees were higher than medical fees in their communities. The same

Based on an article prepared for and released by the Ontario Dental Association on April 23, 1965.

percentage thought they were either the same (8 per cent) or lower (35 per cent).

Most dentists seemed satisfied with their public image. About half (52 per cent) thought it was improving; another 30 per cent felt it was unchanged. One in six, who thought it was deteriorating, most commonly blamed fees for giving a "wrong impression." Three of four Ontario dentists would again pick dentistry as a career if they could repeat their lives. Those who would not most frequently cited mental and physical strain (5½ per cent), preference for another profession or lack of appreciation (6 per cent), and lack of challenge or poor financial return (5 per cent) for their disenchantment.

DISTRIBUTION AND APPOINTMENTS

Most of the profession and public believed there was a shortage of dentists in rural areas, but even there the mothers had little trouble in getting appointments for their children. Only 14 per cent of mothers interviewed had not yet consulted a dentist for their children. Of the vast majority who had — 75 per cent took their children to a dentist in the past year — two out of three reported no trouble in making appointments. One in five of these visits was for an emergency and a negligible number said the dentist could not accommodate them the day they went without an appointment.

Eighty-six per cent of dentists themselves said there was a shortage of practitioners in rural Ontario. About 20 per cent thought there was also a shortage in some urban communities. But three out of four Ontario dentists were seeing the number of patients they wanted to see in a work week. Dissatisfaction with practice size was more evident among younger dentists and there was notably more dissatisfaction with practice size in Toronto (31 per cent not satisfied) than in smaller places (19 per cent dissatisfied outside the province's five major cities). Fourteen per cent of Toronto practitioners blamed over-concentration for their dissatisfaction with the size of their practices; elsewhere only three or four per cent did.

Do Ontario dentists feel it is impossible to deal with the number of patients needing dental care? Fifty-three per cent thought so in the smaller centres; a third of dentists thought so in Ottawa, Hamilton, Windsor and London collectively; only one in four thought so in Toronto.

Only about one dentist in three thought parents would usually wait till the child was in pain before making an appointment, but a substantial number of children did turn up for emergency treatment without an appointment. The vast majority of dentists accommodated them the same day.

Nearly 90 per cent of Ontario dentists use a recall system; 49 per cent make a definite recall appointment for six months hence; two out of five have a recall list for use when appointments are available. Two out of three telephone to remind patients of recall appointments.

TREATMENT OF CHILDREN

Only one Ontario dentist in 20 excludes children from his practice, but 8½ per cent in Ottawa, Hamilton, Windsor and London collectively exclude children. Exclusion is generally because of the dentist's age. About half of the profession see three, four or five children daily; about a third treat more. Older practitioners tend to treat more children over 10 years of age whereas younger dentists tend to treat more younger children. Among graduates since 1950 only one in 12 finds management of children a problem; among 35 year old and older practitioners about one in five finds child management a problem.

Eight out of 10 dentists who work with children take bitewing radiographs. A third take them occasionally; a third do so annually; one in six, twice a year. Parental objection to the expense is the major reason for not doing so. Only one dentist in six protects child patients with a lead apron during radiographic exposure.

Half of those dentists treating children (52 per cent) render some orthodontic care. Most others can make referrals in their area. Nearly nine out of 10 dentists

(87 per cent), however, provide some preventive orthodontic treatment. Lack of training is cited as the major reason by those who do not provide this type of care. Fifty-nine per cent of dentists always advise space maintenance service when a deciduous tooth is extracted prematurely. Two out of three dentists working with children give topical fluoride applications.

Recent graduates have a greater tendency to employ bitewing radiographs and render orthodontic care and topical fluoride applications. Usage is inversely correlated with length of practice.

Three out of four Ontario families have a regular dentist to whom they send their children. Among rural families the ratio is even higher. Another 12 per cent select a dentist when needed. Three-quarters of the mothers interviewed had school-age children but only a third of these mothers were satisfied with dental checks being made in the schools. About one in five said no school dental checks were made. In reply to a multiple-choice question, few mothers expressed confidence in school checks; 45 per cent said they sent (or would send) their children for regular check-ups to a private dentist (26 per cent at least twice yearly); another 30 per cent would take them to the dentist as soon as all deciduous teeth were erupted; 12 per cent would consult a dentist when trouble occurred; 10 per cent would rely on school checks.

GOVERNMENT DENTAL HEALTH PLAN

Seventy-five per cent of Ontario mothers would approve a national dental health plan under which they pay a flat monthly rate for dental care along lines of health or hospital insurance. Thirteen per cent were opposed. While 86 per cent of Ontario dentists would not want to practise as civil servants, very few are opposed to a government dental health program per se. Invited to make general comments on the questionnaire, two out of three respondents did so. Nevertheless only six per cent of responding dentists offered any suggestions, criticisms, or unfavourable comments on government plans of "socialized dentistry." But three out of

four mothers and eight out of 10 dentists were opposed to the Hall Commission proposal that children be treated in clinics staffed by dental auxiliaries with two years' training, working under a dentist's supervision.

Interviewers cited the Hall Commission proposal and the profession's own alternative recommendation — private office treatment with the dentist using dental auxiliaries if needed. They explained the years of training required and services offered by dentists and dental auxiliaries respectively. The 74-23 response in favour of the private office treatment did not vary significantly between urban to rural areas.

Ontario dentists were both informed and concerted on the matter. Eighty per cent said they had read the Hall Commission report and almost as many (78½ per cent) said they did not favour treatment of children by technicians in group clinics. More than half (53 per cent) said they were familiar with the New Zealand Dental Nurse Plan on which the Commission recommendation is based.

Nine out of 10 Ontario dentists would not favour dental auxiliaries performing minor surgery (89 per cent opposed; 1 per cent in favour) or cavity preparation (86 per cent opposed; 6 per cent in favour). At least two out of three would not favour dental auxiliaries doing other intra-oral work — insertion of restorations (70 per cent opposed; 17 per cent in favour), placing bands or appliances (67 per cent opposed; 17 per cent in favour) or taking impressions (60 per cent opposed, 29 per cent in favour).

DENTAL ASSISTANTS

Ninety per cent of Ontario dentists employ dental assistants and another three per cent plan to do so. These assistants are restricted to extra-oral work. Dental hygienists, who may do prophylaxis and take radiographs, are employed by about eight per cent of dentists in Ontario. A large percentage of dentists are about equally divided on whether or not to engage dental hygienists if their practices permit. Forty-one per cent would not en-

gage a hygienist; the same percentage would. Those who see more children and practise in larger centres are more disposed to do so.

Two out of three Ontario dentists employ a single dental assistant but 27 per cent report employment of two or more. Three or more dental assistants are reported by six per cent of dentists in Ottawa, Hamilton, Windsor and London collectively.

DENTAL-MEDICAL LIAISON

About eight in 10 dentists reported good liaison with medical practitioners in their communities. A majority (55 per cent) have dental facilities in local hospitals — in the larger cities three out of four do; in rural areas only a third enjoy such facilities. About one in three dentists is on a hospital staff; another 42 per cent can refer their patients for hospital care through a dental staff member. A third of Ontario dentists do not do oral surgery; two out of five use hospital facilities for oral surgery only. Two out of three dentists believe that some dental problems could be better treated in a hospital than in their own offices.

PROFILE OF THE PROFESSION

Eighty-five per cent of Ontario dentists do not specialize. About three per cent are in orthodontics; two per cent in oral surgery. One in four (23 per cent) have taken a postgraduate course in children's dentistry.

Eight out of 10 work a median 40 hour week (48 per cent work 40 to 49 hours; 34 per cent work 30 to 39 hours). Two out of five take two to three weeks' annual holiday; a like number take four to six weeks.

Two dentists out of three (69 per cent) feel they will have sufficient income to retire at 65. For retirement income they rely about equally on good investments, a pension plan or insurance, and somewhat less on a prosperous practice. Twenty-five per cent do not expect to be able to retire at 65, and nearly half of these dentists say it is because they did not start a savings plan soon enough.

Half of the profession's membership in Ontario have served on the executive of a dental society. Virtually all (97 per cent) attend at least one dental convention or postgraduate course annually—37 per cent attend two such courses; 20 per cent attend more.

How will you pay for continuing office expenses when you are ill or otherwise disabled? Through office overhead expense protection, of course. More than 2,000 dentists are now enrolled in a group office overhead protection plan offered by Canadian Dental Association Pension and Insurance Plans. If you want this protection write now to C.D.A. Pension and Insurance Plans, 2249 Yonge Street, Toronto 7, Ontario.

Clinical Practice of the Dental Hygienist

Esther M. Wilkins and Patricia A. McCullough. Ed. 2. Philadelphia, Lea & Febiger, 1964. (Available from The Macmillan Co. of Canada Ltd., Toronto) 536 p. Illus. \$10.50

This book has become well known and widely adopted for the instruction of dental hygiene students in the clinical management of patients in all aspects of dental hygiene care. The second edition has retained the format of the first but has undergone thorough review and revision. A new chapter on preparation of dental radiographs has been added. Other subject matter, primarily concerned with patient instruction, has been reorganized.

The text is divided into six major sections. Section 1 offers an orientation to clinical practice of the dental hygienist. Preliminary procedures which must be completed prior to oral prophylaxis are presented in section 2. Eleven chapters of the third section are devoted to the objectives, theories and principles of various techniques of oral prophylaxis. The fourth section includes detailed information on auxiliary procedures—topical application of fluorides, care of hypersensitive teeth, preparation of dental radiographs and charting — each an important aspect of dental hygiene care. Section 5, devoted to patient instruction, includes the reorganized and expanded chapter on principles of instruction for effective patient education. Section 6 outlines techniques for the patients with special health problems and special dental hygiene needs.

In this second edition, the authors have included new information pertinent to the subject matter of each chapter. The reference lists at the end of each chapter indicate extensive review of current literature and the lists of suggested reading provide a valuable guide for those who wish to gain additional information on a particular topic. While the illustrations are not numerous, those which have been included are well executed and aid in the comprehension of the principle they serve to illustrate. The major portion of the book is presented in outline form. This format and the excellent index provide for ready reference and review of any aspect of dental hygiene care.

The stated purpose of the authors — to provide the dental hygienist with a comprehensive outline of the principles and techniques of dental hygiene care and instruction for the individual patient — has been admirably achieved. While the book is designed primarily for dental hygiene students and dental hygienists who wish to review current principles and techniques, it provides an appreciation of the scope of the preventive and educational services the dental hygienist is prepared to perform for all who will study it.

Janet R. Burnham

Orthodontics in General Dental Practice

G. C. Dickson. Philadelphia, Lea & Febiger, 1964. (Available from The Macmillan Co. of Canada Ltd., Toronto) 350 p. Illus. \$8.75

This text is composed of 18 chapters. The first six chapters are devoted to a review of basic subjects, such as growth of the skull, musculature, development of occlusion, aetiology of malocclusion and cephalometrics as related to case analysis. Those in general dental practice who have never been exposed to cephalometrics will find a well illustrated chapter on the "Face in Profile." This is followed by chapters on diagnosis, case analysis and treatment planning. The topics are discussed in detail and will definitely aid the general practitioner in assessing and comprehending more complex orthodontic problems. The remainder of the text deals with clinical procedures and appliance construction. The author describes many appliances and the principles of their use in great detail. The Andresen appliance is particularly well explained. This should answer many questions for those interested in its use.

Treatment for both complex and simpler orthodontic problems is described. It is important for the dentist to discriminate, to choose less difficult problems at first in order to gain experience for the more complicated treatment mentioned. Particular care is required with multi-band techniques discussed in this book. The teeth can be

severely damaged in the process of treatment, unless the dentist has had formal instruction in the application of these techniques.

Another topic in this book is the role of extractions in orthodontic treatment. Extraction is easy enough, but a great deal of training is required to move teeth into extraction spaces. Again, caution in prescribing this form of treatment is recommended.

This book describes many orthodontic problems and the treatment prescribed. It should be a valuable addition for those interested in learning more about clinical orthodontics.

A. L. Posen

An Introduction to the Fine Structure of Cells and Tissues

K. R. Porter and Mary A. Bonneville. Ed. 2. Philadelphia, Lea & Febiger, 1964. (Available from the Macmillan Company of Canada) 81 p. Illus. Bound volume \$8.25. Unbound loose leaf perforated pages \$5.00.

The authors of this atlas present a collection of electron micrographs that they have selected to supplement those found in standard histology texts. Their illustrations include micrographs of the hepatic parenchymal cell (2), secretory epithelia (3), lining epithelia (7), reproductive tissues (3), supporting tissues (3), blood and lymphoid cells (5), contractile tissue (4), and nervous tissue (5). The micrographs are clearly printed on good paper (8 x 11 inches) and the important cell structures are plainly marked. The accompanying texts directly face the illustrations and are well written. However, the insets of Plates 3, 9, 15, 16, 28 are not clearly marked as to origin in the overall micrograph and no magnification is given for the inset of Plate 28. These insets should be located by asterisk as in Plate 17 or by arrows as in Plate 10.

The drawings of Figures 2a, 25a, and 27a are excellent and very helpful in emphasizing the accompanying text and micrographs.

The overall production and binding of the atlas is good. The authors and the publishers are to be commended for the loose-leaf, less expensive, student edition. Consideration should be given to publishing more texts in loose-leaf or paper-back editions, particularly for the reason the authors suggest, namely the ease of revision and up-dating in a rapidly changing field. This procedure has been followed in France for years.

This atlas has limited use in the teaching of general histology, depending on the subject matter emphasized, and very little use in the teaching of dental histology. The atlas is recommended as a handy reference text for all libraries.

F. J. Marshall

Textbook of Biochemistry for Students of Dentistry

J. C. Muhler, ed. Ed. 2. St. Louis, Mosby, 1964. 526 p. Illus. \$10.50

There are relatively few attempts to place the subject of biochemistry in a context of oral biology; indeed, so far as the reviewer is aware, this text may be unique in this aspect. That such attempts are rare is not surprising since the role of biochemistry in the dental curriculum remains uncertain. Does it provide merely a necessary theoretical foundation for pharmacology and bacteriology with their obvious significance for dentistry? Does its place in the curriculum merely reflect the honoured position of biochemistry in modern day biology, which makes it a *sine qua non* for the student of applied human biology, whether his ultimate goal is medical or dental practice? Or is there now really such a topic as oral biochemistry? As a teacher of biochemistry to dental students I have perused the pages of Muhler's book hoping to find an answer to these questions which so plague our teaching practice, but remain as uncertain as ever. Take, for example, chapter 17 on "Lipid Metabolism." Will the first two pages of the chapter be of any assistance to the dental student faced by the subsequent 24 pages of the chapter? Frankly, I do not know. There is no obvious connection which will help the student integrate the metabolic material with his professional aims, but those first two pages might be all important in altering the student's motivation. If so, the production of the text is amply warranted. If not, then why add yet another text book in a field which is already amply supplied with good texts. Only experience in using the text in connection with a course in biochemistry for dental students could decide between these possibilities.

G. R. Williams

Applied Psychology in Dentistry

W. R. Cinotti and Arthur Grieder. St. Louis, C. V. Mosby Company, 1964. 270 p. Illus. \$9.25

This timely book, filled with practical ideas, has been needed for years by the new graduate and the busy practitioner. As the authors point out, no one person has acquired sufficient knowledge and ability to match the progress of his profession. Any book will be of little value to the dentist who feels that his skill cannot be further developed. But no dentist can afford to be complacent; education is a continuous process. For the conscientious dentist, this book will be an invaluable aid.

Cinotti and Grieder, in collaboration with R. V. Heckel, admirably describe the application of psychology to dental practice. In 217 pages divided into 17 chapters, they discuss the psychology of personality and different theories and schools of psychology. Of particularly practical help are the chapters on relaxation, temporomandibular joint dysfunctions, psychology of motivation, patient education, psychology of patient care, personality improvement and employee selection. Many patients lose teeth unnecessarily when case history, thorough examination, and treatment planning are neglected. The authors therefore include the psychological aspects of these topics, as well as the actual procedures.

The undergraduate is taught to treat the whole patient, not just a cavity. This book tells him how to do so. By applying this information we can improve our public image; dentists will be considered as doctors rather than as technicians.

The addition of *Applied Psychology in Dentistry* to every dentist's library will make practice, psychologically, much more rewarding.

D. S. Moore

Selected Dental Findings in Adults by Age, Race and Sex: United States, 1960-1962

National Center for Health Statistics. *Vital and Health Statistics. PHS Publication No. 1000, Series 11, No. 7. U.S. Department of Health, Education and Welfare. Washington, U.S. Government Printing Office, 1965*

National estimates of dental conditions in adults, the first ever to be based upon examination findings from a probability sample of the U.S. population, have recently been released by the National Center for Health Statistics. They are contained in the report, *Selected Dental Findings in Adults by Age, Race, and Sex*. Also included are a description of the dental examination, an account of examiner training, and an assessment of the scope and effect of non-response and examiner variability.

In mid-December 1962 the U.S. Public Health Service completed the first cycle of the nationwide health examination survey which it had begun more than two years earlier. Health examinations were given to 6,672 adults scientifically selected to represent the civilian, noninstitutional U.S. population 18-79 years of age. Dental examinations were a part of the two hour long health examinations taken to obtain national estimates of the prevalence and distribution of a number of diseases and conditions occurring in the U.S. population.

The dental examinations were conducted by five examiners carefully trained in a standardized examination procedure. Exam-

inations were performed with a mouth mirror and explorer, without radiographs, and took on the average about 10 minutes to complete.

Estimates, based upon the examination findings, include the following:

In the target population of 111 million U.S. adults 18-79 years of age, more than 20 million had lost all 32 of their permanent teeth and nearly 10 million more had lost all 16 teeth in either the upper or the lower jaw. This means that among every 100 adults an estimated 18 had no permanent teeth at all, while nine others had natural teeth in only one jaw.

Tooth loss rose abruptly with age. While only about one in every 100 persons 18-24 years of age was edentulous, by age 65-74 years nearly one out of two had lost all of his teeth.

White adults were twice as likely as Negro adults to have lost all their natural teeth either in one or both jaws.

The average adult represented in the sample had 20.4 DMF teeth.

The average number of DMF teeth in Negro adults was only about two-thirds of the number found in white persons, 14.5 and 21.2 teeth, respectively.

Among the approximately 90 million adults with at least one natural tooth remaining, nearly three out of four showed some evidence of having gingivitis or destructive periodontal disease.

Destructive periodontal disease was half again as prevalent among Negro as among white adults.

F. E. Linder

New Teeth for Old

V. H. Sears. Ed. 4. St. Louis, The C. V. Mosby Company, 1965. 112 p. Illus. \$3.50

This is a book designed to allay the fears of the apprehensive, prospective full denture patient. In layman's language Dr. Sears explains in a calm reassuring manner that all is not lost when dentures are indicated.

He starts at the pre-extraction phase and runs through 12 easily read chapters outlining immediate dentures, their care and manufacture and, believe it or not, ending with food and recipes. Various cartoons preserve this somewhat light-hearted approach and the text does not have to be read in its entirety to be appreciated.

The book is only 112 pages in length and printed in large type for easy reading. It has a place in the waiting room or could be loaned to patients prior to extractions. This reviewer also recommends it for dentists as Dr. Sears has condensed many years of experience into this fine little book.

E. Rollaston

Additions • Acquisitions

- BEGG, P. R. Begg orthodontic theory and technique. Philadelphia, Saunders, 1965. 364 p. illus. \$23.80
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- DENTAL CLINICS OF NORTH AMERICA, March 1965. Symposia on I. Crown and bridge prosthodontics, II. Dental materials. Philadelphia, Saunders, 1965. 266 p. illus.
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- GUYTON, A. C. Function of the human body. Ed. 2. Philadelphia, Saunders, 1964. 433 p. illus. \$8.40
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- HILTZ, M. C. Nutrition; an introductory text. Rev. ed. Toronto, Macmillan, 1965. 169 p. illus.
- KERR, D. A., ASH, M. M. and MILLARD, H. D., Oral diagnosis. Ed. 2. St. Louis, Mosby, 1965. 451 p. illus. \$11.90
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- ROYAL COMMISSION ON HEALTH SERVICES. OTTAWA. Vol. II — 1965. 375 p.
- SASKATCHEWAN DEPARTMENT OF PUBLIC HEALTH. REGINA. New Zealand School Dental Services. Report of Observation Mission from Saskatchewan, July 1962. Published March 1965, 101 p.
- SIMON, B. V. Library support of medical education and research in Canada. Ottawa, Association of Canadian Medical Colleges, 1964. 133 p. \$2
- TYLMAN, S. D. Theory and practice of crown and bridge prosthodontics. Ed. 5. 1965. 1249 p. illus. \$19.45
- YEAR BOOK OF DENTISTRY, 1964-1965 Series. Chicago, Year Book Medical Publishers, Inc. 507 p. illus. \$8.80
- ZAYDON, T. J. and BROWN, J. B. Early treatment of facial injuries. Philadelphia, Lea & Febiger, 1964. 258 p. illus. \$16.50

The Royal Canadian Dental Corps fiftieth anniversary: 1915-1965

On April 20, 1965 the Royal Canadian Dental Corps celebrated the fiftieth anniversary of its inception as an organized Corps in the Canadian Forces. During these years it has progressed through two world wars, several other conflicts and emergency actions and the periods of intervening and comparative peace. The Corps has been represented in all parts of the world wherever Canada's armed forces have served and has come to be recognized as an integral part of any Canadian formation either at home or abroad, large or small. Today it emerges as a mature and experienced member of the Services, fully prepared to carry out its allotted roles under whatever circumstances and conditions exist. In the present atmosphere of integration and unification and with 25 years of experience and knowledge gained in a tri-service role the Corps may well serve as a model on which other organizations in the Canadian Forces can be patterned.

In a health service such as ours there must always be maintained an intimate link between the civilian profession and the Corps, for while the circumstances may differ, our objectives are identical. This common aim remained as a bond to withstand the many adversities with which the Corps has been confronted during these 50 years. In the profession at large across Canada today are a great many dentists who have served or were

associated with either the Canadian Army Dental Corps, the Canadian Dental Corps or the Royal Canadian Dental Corps. At one time during the Second World War there were some 1,600 dentists and 4,500 auxiliary personnel on strength. Since the beginning of our present peacetime establishment in 1946, more than 200 dentists have completed their stipulated period of service and been released to civilian practice. The Corps undergraduate recruitment program since 1950 has enrolled from all dental faculties in Canada, through the Department of National Defence subsidization plans, over 350 undergraduate students who have served or will serve as dental officers in the Regular Force. When the many hundreds who have been associated with the Militia component are included, and well they should be, there appears a background of which the profession and the Corps can rightfully be proud.

Although this is our fiftieth anniversary as a Corps, our present day organization really evolves from its reorganization as the Canadian Dental Corps in 1939 and again from its initial peacetime establishment in 1946. Since then, of course, there have been improvements and progress, of which some were the natural advancement made side by side with the civilian profession. Apart from this, however, there have been developments peculiar only to our military dental service which



1915

have lent themselves to the production of the 'esprit de corps' that now exists. The grant of the title 'Royal' by King George VI in 1947, the completion of the new Corps School in 1957, adoption of the Corps March in 1958, inauguration of the *R.C.D.C. Quarterly* in 1960, establishment of the civilian Board of Consultants in 1960, representation on the Board of Governors of the Canadian Dental Association in 1964, and a progressive improvement in rank structures for all personnel are only a few which come to mind. Special Corps activities such as the annual curling bonspiel and the annual golf competition have also done their part in engendering the spirit that has carried the Corps to its



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present position in the Canadian Forces and in the profession.

The Corps is perhaps unique and certainly fortunate in the training program it has developed over the years and is now able to offer to the officers and auxiliary personnel during their careers. This is particularly applicable to the dental auxiliaries, for the R.C.D.C. is one of the few, if not the only organization in the profession in Canada which has in existence the means to train and qualify all categories of these personnel. There are, at present, 15 different trade courses available which cover the clerical, supply and equipment maintenance aspects as well as the various levels required for clinical and laboratory duties. In addition, there are the courses required for qualification in the military phases of their responsibilities. Provision is also made for an extensive program for the postgraduate training and qualification of dental officers. This program includes periodic refresher courses at the R.C.D.C. School in all the applicable fields and courses of up to a year's duration at civilian facilities in Britain, the United States, Europe and Canada. The U. S. Army and U. S. Navy dental services have for many years opened their facilities to R.C.D.C. officers and provided training available through no other sources in the world.

It is regrettable that more complete photographic and documentary records for the early years of the Corps history are not available. In the April issue of the



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R.C.D.C. Quarterly an attempt has been made to present as much of this material as was available but unfortunately it does not portray as well as it should the formative period in our background. There are still dentists, however, who served at that time and who have retained sufficient interest in Corps affairs to recall and publish their impressions. One such paper by E. A. Grant of Toronto was published in the February 1965 issue of the *Journal of the Ontario Dental Association* and provided a most interesting and informative sidelight on the early days of our activities in the First World War. Other similar contributions would be received with appreciation by those concerned with our history and progress.

The majority who have been associated in some capacity with one or other of the components of the Corps, be it the Regular Force or the Reserves, are no doubt familiar with the Corps School at Camp Borden, Ontario. This institution is being projected as the family symbol of the Corps with the hope that all Dental Corps personnel of even the remotest connection will feel welcome to visit and observe whenever they are in the vicinity. A col-

lection of items of historical interest is gradually being accumulated which should provide in the years to come the nucleus for an exhibit of lasting and incalculable value. Perhaps eventually it may even evolve into a museum of sorts.

In the years between the two world wars, the Dental Corps was not in a position to fulfil its role as a health service in the armed forces and in reality had ceased to exist as an organized component of the Canadian Army. Fortunately, however, there were dentists at that time who had an abiding concern with the profession and the military and had the foresight, energy and ability to establish the Corps on its present sound and effective footing. The original impetus applied in 1939 and the momentum since then has maintained the R.C.D.C. as a model for the dental services in the armed forces of many other nations in the world. This is a position which, of course, is only equitable with the status, in international dental affairs, of the Canadian dental profession with whose help may we continue to develop and progress during the next 50 years.

Canadian Forces Headquarters

C.D.A. Library Trust Fund • The circulation of books and periodicals by the Canadian Dental Association's Library provides a valuable service to Association members. Increased circulation and the purchase of new texts make greater demands on the Association's library trust fund. All donations to the fund are therefore gratefully received. Donors are furnished receipts which entitle them to income tax deduction.

Le cinquantenaire du

Corps dentaire royal canadien: 1915-1965

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Le 20 avril 1965, le Corps dentaire royal canadien a célébré le cinquantenaire de sa formation comme corps organisé au sein des forces armées du Canada. Il n'a cessé de progresser au cours de ces années qui ont connu deux guerres mondiales, plusieurs autres conflits et situations critiques, le tout entrecoupé de périodes transitoires de paix relative. Le Corps a été présent dans toutes les parties du monde où les forces armées du Canada ont servi, et on en est venu à le considérer comme partie intégrante de toute formation canadienne, petite ou grande, au pays et à l'étranger. Aujourd'hui, il est reconnu comme un élément évolué et expérimenté des forces armées, pleinement préparé à remplir les rôles qui lui seront dévolus, quelles que soient les circonstances et les conditions existantes. Dans la présente atmosphère d'intégration et d'unification, et avec les 25 années d'expérience et de connaissances qu'il a acquises dans un rôle interarmes, le Corps pourrait devenir le modèle sur lequel seraient façonnés les autres organismes des forces armées.

Dans un service de santé comme le nôtre, il faut toujours maintenir une étroite liaison entre la profession civile et le Corps, car si les circonstances peuvent varier, les objectifs restent toujours les mêmes. Ces objectifs communs ont toujours été comme le lien qui a empêché le Corps de succomber aux nombreuses adversités auxquelles il a dû faire face au cours de ces dernières 50 années. Parmi ceux qui exercent la profession de dentiste un peu partout au Canada, il y en a un grand nombre qui ont servi, soit dans le Corps dentaire de l'Armée canadienne, soit dans le Corps dentaire cana-

dien (C.D.C.), soit dans le Corps dentaire royal canadien (R.C.D.C.), ou qui ont été associés d'une façon ou d'une autre à l'un de ces organismes. A un certain moment au cours de la seconde guerre mondiale, quelque 1,600 dentistes et 4,500 membres du personnel auxiliaire faisaient partie de l'effectif. Depuis l'établissement de notre effectif de temps de paix en 1946, plus de 200 dentistes ont accompli la période de service requise et sont retournés à l'exercice de leur profession dans la vie civile. Le programme du Corps visant au recrutement des étudiants a enrôlé, depuis 1950, par l'entremise des programmes d'aide financière du ministère de la Défense nationale, plus de 350 étudiants de toutes les facultés dentaires du Canada, lesquels ont déjà servi ou serviront ultérieurement comme officiers dentistes dans les forces régulières. Si l'on ajoute à ce nombre les centaines de membres qui ont déjà fait partie des éléments de la Milice,—ce qui serait tout à fait approprié,—on obtient un tableau dont la profession et le Corps ont à juste titre le droit d'être fiers.

Bien que ce soit le cinquantième anniversaire de notre formation en tant que Corps, notre organisme actuel a effectivement pris forme lors de sa réorganisation comme Corps dentaire canadien en 1939, et subséquemment, de l'établissement de son effectif initial de temps de paix en 1946. Depuis lors, évidemment, le Corps n'a cessé de s'améliorer et de progresser, ce qui, dans certains cas, n'était que le résultat de l'évolution naturelle qu'il a suivie de concert avec la profession civile. Ce fait mis à part, cependant, il y a eu certaines améliorations qui n'étaient particulières qu'à notre service dentaire militaire, lequel s'employa à créer 'l'esprit de corps' qui existe à l'heure actuelle. L'octroi du titre 'Royal' par le roi George VI, en 1947; la construction de la nouvelle école du Corps dentaire, en 1957; l'adoption de la marche du Corps, en 1958; l'inauguration de la revue trimestrielle intitulée *RCDC Quarterly*, en 1960; l'établissement de la Commission consultative formée de civils, en 1960; la représentation auprès du Conseil des Gouverneurs de l'Association dentaire canadienne, en 1964; et enfin, une amélioration constante de la classification des

grades pour tout le personnel ne sont que quelques-unes des réalisations qui me viennent à l'esprit. Certaines activités spéciales du Corps, entre autres les tournois annuels de curling et de golf, ont également contribué à créer cet esprit grâce auquel le Corps a pu accéder à la position qu'il occupe présentement dans les forces canadiennes et la profession.

Le Corps est peut-être le seul, et certainement l'un de ceux qui ont eu la main la plus heureuse, en ce qui touche le programme d'instruction qu'il a mis au point au cours des années, et qu'il peut maintenant offrir aux officiers et au personnel auxiliaire pendant leur carrière. Ceci s'applique particulièrement aux aides dentaires, car le R.C.D.C. est l'un des seuls, sinon le seul organisme dans la profession, au Canada, qui possède actuellement les moyens de former, selon les aptitudes requises, les membres des diverses catégories de son personnel. Il offre actuellement 15 différents cours de spécialités qui ont trait aux domaines suivants: le travail de bureau, le ravitaillement et l'entretien du matériel, ainsi que les divers degrés de compétence requis pour le travail de clinique et de laboratoire. Il offre, en outre, les cours exigés pour devenir admissible à la catégorie militaire afférente à leurs fonctions. On a également prévu un programme très poussé pour la formation universitaire supérieure des officiers dentistes. Ce programme comprend des cours de révision périodiques, donnés à l'Ecole du R.C.D.C. dans tous les domaines appropriés, ainsi que des cours pouvant durer jusqu'à un an dans des institutions civiles, en Grande-Bretagne, aux États-Unis, en Europe et au Canada. Les services dentaires de l'armée et de la marine des États-Unis ont depuis longtemps déjà ouvert les portes de leurs institutions aux officiers du R.C.D.C. et assuré à ces derniers une formation qu'il leur était impossible d'acquérir nulle part ailleurs dans le monde.

Il est regrettable qu'il n'existe pas un dossier photographique et documentaire plus complet des premières années de l'histoire du R.C.D.C. Dans l'édition d'avril de la revue *R.C.D.C. Quarterly*, on a essayé de présenter à ce sujet toute

la documentation disponible, laquelle, malheureusement, ne trace pas un tableau aussi fidèle qu'il le faudrait de la période de formation des débuts. Il reste cependant des dentistes qui ont servi à cette époque et qui s'intéressent encore suffisamment aux affaires du Corps pour se remémorer des faits et publier leurs impressions. Le Dr Edmund Grant, de Toronto, a publié un article de ce genre qui a paru dans l'édition de février 1965 du *Journal de l'Association dentaire de l'Ontario* et fourni un aperçu des plus intéressants sur la petite histoire des premiers jours de nos activités lors de la première guerre mondiale. Ceux qui s'intéressent à notre histoire et à nos progrès seraient très heureux de pouvoir lire d'autres travaux du même genre.

La plupart de ceux qui ont déjà fait partie de l'un ou l'autre des éléments du Corps, que ce soit dans les forces régulières ou de réserve, connaissent bien l'École du Corps dentaire, qui se trouve à Camp Borden (Ont.). On projette de faire de cette institution le lieu de rendez-vous des membres du Corps dans l'espoir que tout le personnel du Corps dentaire, même ceux qui y sont associés de très loin, se sentent les bienvenus, chaque fois qu'il leur plaira de nous rendre visite quand ils passeront dans les parages. On est à monter graduellement un étalage

d'objets d'intérêt historique qui formeront dans les années à venir le noyau d'une collection de très grande valeur. Peut-être même parviendra-t-on à en faire un musée.

Pendant les années de l'entre-deux-guerres, le Corps dentaire n'était pas en mesure de remplir son rôle comme service de santé dans les forces armées et, en réalité, il avait cessé d'exister en tant qu'élément organisé des forces canadiennes. Heureusement, cependant, qu'il y a eu, à cette époque-là, des dentistes qui n'ont cessé de s'intéresser à la profession dans la vie militaire et qui ont eu la prévoyance, l'énergie et l'habileté d'organiser le Corps sur les bases solides et efficaces qu'il possède actuellement. L'élan initial qui avait été donné en 1939, et dont l'allure a été conservée depuis, a contribué à faire du R.C.D.C. un modèle que les services dentaires des forces armées de nombreux autres pays du globe auraient avantage à suivre. C'est une situation qui, évidemment, ne peut qu'aller de pair avec celle qu'occupe dans les affaires dentaires internationales, la profession dentaire canadienne, avec l'aide de laquelle nous espérons continuer à nous développer et à progresser au cours des 50 prochaines années.

Quartier-général des Forces canadiennes

La Bibliothèque de l'A.D.C. • La bibliothèque de l'Association dentaire canadienne dispose de milliers de volumes traitant de sciences dentaires et médicales; elle met en outre à la disposition des dentistes de toutes les parties du Canada (par la poste) des périodiques et d'autres imprimés de toutes sortes. Les dons faits au Fonds de la bibliothèque sont déductibles de l'impôt sur le revenu.



FIGURE 1 An extracted tooth showing the projection in the centre of the crown. The projection has been fractured and the prolongation of the pulp is visible.

Three evaginated odontomes: case report

H. G. Poyton,* F.D.S., H.D.D., Toronto, Ontario, and
E. R. Vizcarra,† D.D.M., D.D.P.H., Manila, Philippines

Evaginated odontomes on cuspids and bicuspid of an 11 year old Chinese boy are described. These projections are believed to be due to a developmental deviation that causes an outward extrusion of a portion of the dental papilla into the enamel organ. Attrition or fracture of the resulting tubercle is frequently complicated by pulp exposure.

Au cours de l'étude clinique décrite ici nous avons vu des odontomes évaginés sur les canines et prémolaires d'un jeune chinois de 11 ans. Ces projections sont peut-être dues à une déviation de développement qui cause une extrusion d'une portion de la papille dentaire dans l'organe adamantin. L'attrition ou la fracture du tubercule qui en résulte, est souvent compliquée par le dénuelement pulpaire.

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The evaginated odontome is known alternatively as Leong's premolar, odontome of the axial core type, oriental premolar, occlusal pearl, and tuberculated



FIGURE 2 (1) Extracted tooth sectioned to show the prolongation of the pulp. The top of the projection has been fractured.

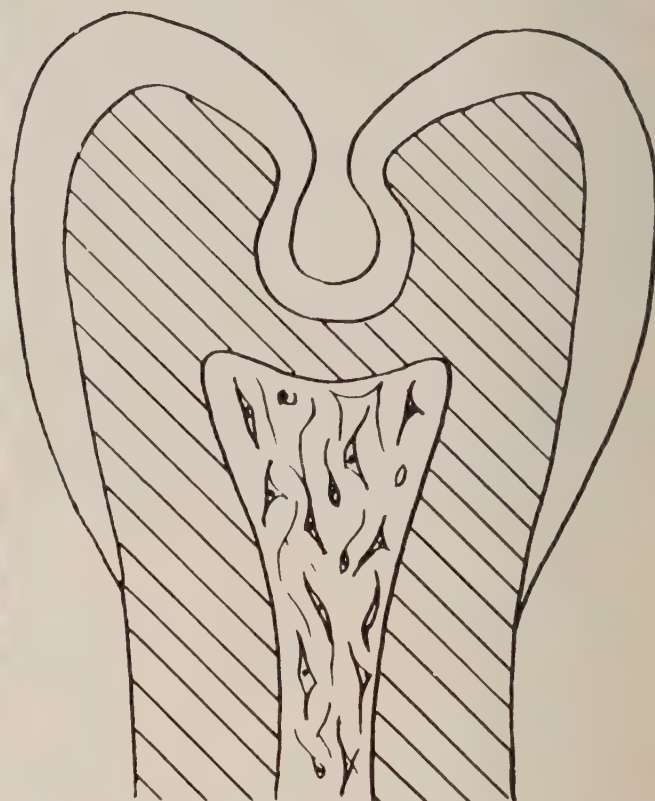


FIGURE 3 Diagram of an invaginated odontome.

premolar. Probably the use of the word premolar is inadvisable since the condition has been recorded in other teeth.^{1,2} The suggested use of the term, evaginated odontome, has logic since it is based on the most widely accepted theory of causation.

A perusal of the literature suggests that the anomaly was first mentioned by Leigh in 1925,³ was described in more detail by Yumikura and Yoshida in 1936,⁴ and was discussed again by Leong in 1946. Since then many writers have added to our knowledge of the subject.^{1,2,5-8}

Clinically it is seen most frequently in the centre of the occlusal surface of a bicuspid tooth. It is a small projection, usually about 2 mm. in length and 1 to 5 mm. in diameter (Figure 1). A prolongation of the pulp extends into the tubercle (Figure 2) and frequently attrition or fracture of the prominence occurs, causing involvement of the pulp. Consequently, pulpitis and rarefying osteitis are common sequels. Osteomyelitis resulting from this cause has also been reported.⁵

The large majority of examples seen have been in bicuspid. Oehlers reported

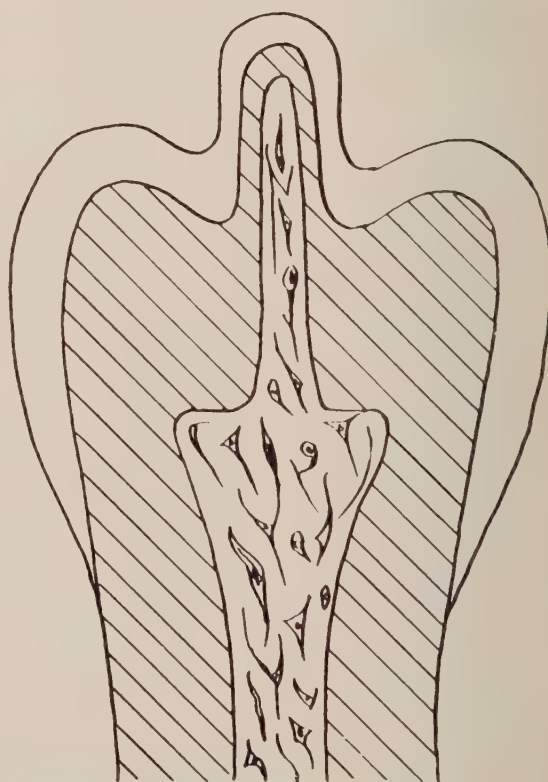


FIGURE 4 Diagram of an evaginated odontome.



FIGURE 5 Cast of left mandibular teeth showing an evagination in both bicuspsids.



FIGURE 6 Cast of right mandibular teeth showing an evagination in the first bicuspid only.

110 such cases.⁶ In his series only mandibular bicuspsids were affected and most of these were second bicuspsids. However, this abnormality has also been found in cuspsids, molars, and incisors.^{1,2}

Most reports have come from the Far East. The patients have been of Chinese origin, but the anomaly has also been recorded in Japanese nationals,⁴ North American Eskimos,³ and the Eskimos of East Greenland.² It therefore appears from the recorded literature that this condition has only been seen in those of Mongolian stock.

One of us (E.R.V.) has observed a familial tendency with these cases.

It seems logical to assume that this abnormality is caused by a deviation from normal during the developmental stage of tooth formation. Tratman⁸ and Rushton⁷ suggest that the method of formation of this condition and of the invaginated odontome is similar. It is postulated that in the case of invaginated odontome there is an infolding into the dental papilla causing an intrusion of the enamel into the substance of the tooth (Figure 3). The reverse is said to occur in the evaginated odontome: there is a small extrusion of dental papilla into the enamel organ resulting in the formation shown in Figure 4.

CASE REPORT

This patient exhibited three evaginated odontomes in mandibular bicuspsids.

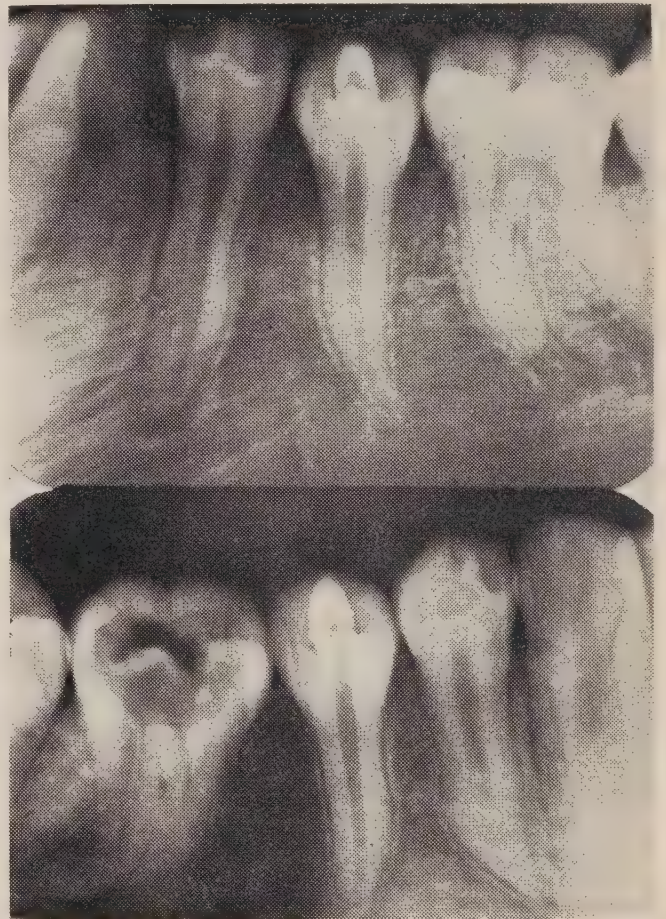


FIGURE 7 Radiographs of teeth in Figures 5 and 6. Upper radiograph is of the left side; lower radiograph, right side.

The patient was a male, age 11 years and of Chinese origin. He presented himself for the extraction of the right first mandibular molar which was very carious. He was not feeling pain from the bicuspsids, but complained of discomfort in chewing. Clinically the abnormalities were clearly visible.

The plaster cast of the mandibular teeth taken at the time of presentation

shows an evaginated odontome in both bicuspid on the left side (Figure 5), and one in the first bicuspid on the right (Figure 6).

The radiographs (Figure 7) show the outline of the prominences and the extension of the pulp into these tubercles. The prolongation of the pulp of the left first bicuspid comes to the surface, and, although technically the radiograph is defective, some evidence of rarefying osteitis at the apex of this tooth is visible.

In view of the likelihood of pulp involvement it is necessary to undertake treatment in these cases. Two courses are available — conservative endodontic treatment or radical treatment entailing extraction. In this case the patient was

advised to have endodontic treatment of the affected bicuspid but he failed to return for this to be undertaken.

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124 Edward Street

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Treatment of oedema by enzyme therapy

Proteolytic enzymes (trypsin, chymotrypsin), plasminogen-activating enzymes (streptokynase, streptodornase, papain) and hyaluronidase have been tested as a means of reducing inflammation and oedema following oral surgical operations. These substances do not prevent the occurrence of oedema. The extent to which they limit its development or influence its resolution remains in doubt.

Les diastases protéolytiques (trypsine, chymotrypsine) les diastases activant les plasminogènes (streptokynase, streptodornase, papaïne) et l'hyaluronidase ont été éprouvées comme moyens de réduire l'inflammation et l'oedème qui suivent les opérations chirurgicales buccales. Ces substances ne préviennent pas l'occurrence d'oedème. Jusqu'où elles limitent son développement ou influent sur sa réduction est encore incertain.

Various investigators have explored the application of enzymes to the reduction of inflammation and oedema associated with oral surgical operations. Interest in inflammatory and anti-oedematous agents has been focused upon three types of enzymatic preparations: proteolytic enzymes, plasminogen-activating enzymes, and hyaluronidase.

Whenever cells are injured or destroyed, an immediate inflammatory response occurs in the surrounding tissues.¹⁻³ Inflammation begins with an alteration and terminates with a restitution of physiological equilibrium. Intermediary are morphological, chemical, and physiochemical changes involving vascular tissue, nerve tissue, fluid and cellular com-

ponents of the blood and surrounding connective tissue.^{1,4} The ultimate character, extent and severity of the reaction, which may vary from barely visible hyperaemia to an intense suppurative response, is modified by many factors related to both the host and the causative agent.³

Trauma creates the primary inflammatory alteration of vaso-dilatation and increased capillary permeability. The physical and chemical changes this response elicits in the affected tissue establish the secondary inflammatory alteration.¹ Morphological changes which appear include depolymerization of the ground substance of connective tissue and degranulation of mast cells. Chemical changes include increased glycolysis, increased proteolysis, increased lipolysis, and increased breakdown of nu-

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cleic acids. Released chemical substances, including such Menkin factors as leucotoxine and leucocytosis promoting factor (LPF),^{1,2} contribute to the two basic vascular alterations, vasodilatation and increased capillary permeability which underlie the adjustments to tissue injury.

There are two recognized types of capillaries:¹ stream capillaries directly connecting arterioles and venules, and true capillaries arising at the origin of stream capillaries and returning to them at the origin of venules. Blood flow through stream capillaries is rather constant, whereas flow through true capillaries is intermittent,¹ though likely increased locally in inflamed areas. These vessels are responsible for the exchange of fluid between vascular and connective tissues. Water escapes chiefly through the proximal portion of capillaries. Electrolytes move by diffusion at the arteriolar aspect, while some proteins and other colloids, including fibrinogen, leave the vascular stream at the venous end, presumably by filtration.⁴ Water is reabsorbed; protein is not. The increase in the protein concentration in the interstitial space shifts the net colloid osmotic pressure to further promote oedema.

The genesis of oedema at any site can be reduced to local terms of fluid balance and fluid load.⁴ The process which directly effects accumulation of interstitial fluid is the net filtration across the capillary membrane. Filtration of water and colloids is regulated largely by the permeability of the capillary wall, the vascular pressure gradient across the capillary, and the gradient in osmotic pressure between the vessels and the interstitial tissues. Permeability of the capillary endothelium is increased by acidosis.¹ Increased anaerobic glycolysis leads to increased production of lactic acid, and hence to relative acidosis or reduction of the normal alkalinity of the involved interstitial tissues. Relative acidosis also promotes diapedesis, initially of polymorphonuclear leucocytes and later macrophages, as the alkalinity of the area is further reduced. Increased proteolysis other lyses increase the number of molecules and therefore the osmotic pressure

of the inflamed tissue, further promoting increase in interstitial fluid. Eventually, however, increased local mechanical pressure may restrict further accumulation of fluid.

The functional significance of the inflammatory exudate varies. Plasma antibodies, kinases, and enzymes pass with the exudate, which functions as an anti-serum promoting breakdown and digestion of damaged tissue.¹ Serous exudation promotes lymph flow, thereby accelerating removal of noxious material including damaged cells. Fibrinous inflammation with its deposition of fibrin differs in that the developing fibrin mass causes local retention of various materials to some degree. This process can reduce the rate of reduction of the oedematous fluid, but does reduce spread of noxious agents to other areas. Lymph is simply part of the interstitial fluid to which is attached a specific name. It is identical in composition to the interstitial fluid and differs from plasma principally in its protein content.⁴ Its role consists of the return of plasma protein to the vascular system and, in essence, the reduction of interstitial fluid which has accumulated locally.

PROTEOLYTIC ENZYMES

Trypsin and Chymotrypsin. — These are proteolytic enzymes of animal origin usually extracted from mammalian pancreas.⁵⁻⁷ Their action is based on preferential digestion of nonviable cells and a wide variety of proteins without adverse effect on normal tissue or healing processes.^{7,8} In inflammatory and oedematous processes fibrin macromolecules are trapped in the walls of capillaries and in connective tissue.^{1,9} These fibrin deposits reduce the free flow of body fluids and impede the resolution of inflammation and the resorption of oedema. Following the administration of either trypsin or chymotrypsin or of a combined form, these fibrin macromolecules are reportedly depolymerized. The restoration of the free flow of body fluids, the removal of medium favourable to bacterial growth, and tissue repair, therefore, are believed accelerated. Favourable

results have been claimed in a variety of clinical conditions, including crush injuries, fractures, haematomas, ulcerations, and postoperative tissue reactions.³ Trypsin and chymotrypsin have been administered prophylactically to patients undergoing oral surgical procedures with results indicating reduction in the severity of postoperative swelling.¹⁰ Trypsin and chymotrypsin are available individually or combined for topical, buccal, oral, or intramuscular administration. The oral dosage recommended is two tablets containing 50,000 units of trypsin four times daily; the adult intramuscular dose is 1 ml. containing 5,000 units N.F. once or twice daily until the desired result is obtained.³

Papain.—This is a proteolytic enzyme extracted from the plant *Carica papaya*.¹¹ The principal action appears to be similar to that of the proteolytic enzymes of animal origin. In conjunction with the usual physical and chemotherapeutic measures papain has been prescribed in conditions of concern to the oral surgeon such as traumatic injuries, localized infections, and allergic reactions.^{11, 12} Papain is administered buccally or orally in a prophylactic dose of one or two tablets containing 10,000 units about every four hours. Following trauma the recommended dose is initially one tablet every two hours during waking hours for the first day and thereafter one tablet every four hours for several days. Other enzymes of vegetable origin with apparently similar actions are available.³

PLASMINOGEN-ACTIVATING ENZYMES

Streptokinase. — This enzyme is produced by human haemolytic group A and non-pathogenic group C (Lancefield) streptococci.⁷ It activates a fibrinolytic factor in human serum, termed plasminogen. When plasminogen is activated to plasmin, fibrin is split into soluble polypeptides, and dissolution of clots and fibrous exudates is promoted.⁶⁻⁸

Streptodornase produced from growth of most strains of haemolytic streptococci is considered together with strepto-

kinases. Although the nature of streptodornase may not be identical in every instance, it is always a deoxyribonuclease. It acts on the substrate of deoxyribonucleo-protein and deoxyribonucleic acid (DNA), which constitutes 30-70 per cent of the sediment of thick purulent exudates.⁷ The viscous nucleoproteins are split into purine and pyrimidine nucleosides causing increased rate of liquefaction of the dead cells and pus, thereby facilitating resolution without adverse effect on living cells.

Streptokinase and streptodornase are available in combined forms for buccal and intramuscular administration, and as such have been used to influence resorption of oedema and local haemorrhage.^{2, 13-16} When employed by the intramuscular route only streptokinase is believed capable of producing an effect, but the buccal form apparently is as effective as intramuscular injection. The recommended buccal dose is one tablet, containing 10,000 units of streptokinase and 2,500 units of streptodornase, four times daily.⁸ Instructions should stress complete absorption of the buccal type within the oral cavity, since the enzymes are inactivated by the acidity of gastric fluids. More recent preparations for oral administration are not inactivated by such acidity.

HYALURONIDASE

Hyaluronidase is an enzymatic extract of mammalian testes that is capable of hydrolysing hyaluronic acid.^{1, 7, 17} Hyaluronic acid, a mucopolysaccharide of glucuronic acid and N-acetylglucosamine, is an essential component of the intercellular connective tissue. Hyaluronic acid limits the spread of fluids and other extracellular material. By depolymerization of hyaluronic acid the permeability of the ground substance is increased, spreading of intercellular fluid is promoted and absorption of the accumulated inflammatory exudate is accelerated. Hyaluronidase, therefore, has been used clinically in a variety of dental conditions.¹⁷ Of importance to the oral sur-

geon is its use to aid in the elimination of muscular trismus and resorption of persistent swellings from injuries or operations, including haematomas. The efficacy of hyaluronidase injections of 150 turbidity reducing units (TRU) in the dramatic resolution of haematomas has been reported by Benzer and Shaffer.¹⁷ Prompt treatment after development of the haematoma is essential and injections are made directly into the area of swelling. Shuttee has reported a well-controlled study of the effects of hyaluronidase on trismus, swelling and pain associated with the removal of lower third molars.¹⁸ Complications disappeared twice as quickly in patients who received hyaluronidase as they did in patients injected with saline. Further studies are required to determine precisely the site of injection and the optimum solution strength and volume for this purpose.¹⁸

GENERAL THERAPEUTIC CONSIDERATIONS

There are a number of factors in prescribing enzymes of which one should be cognizant. There arises with the use of enzymes the possibility of sensitization and untoward reactions. Reactions of an anaphylactoid nature have been reported in a number of patients who received chymotrypsin.^{19,20} The occurrence of these reactions emphasizes the necessity of skin tests prior to administering this drug to any patient with a history of known allergy or sensitivity, and prior chymotrypsin or trypsin therapy.²⁰ No reports of anaphylactic reactions to other enzyme preparations were noticed, although less severe reactions have occurred.

Enzymes are contra-indicated in patients undergoing anticoagulant therapy, although patients have received proteolytic enzymes of vegetable origin for prolonged periods without significant change in prothrombin time. In general, enzymatic preparations are contra-indicated in the presence of active haemorrhage, evidence of a defect in blood coagulation or depression of liver function for any reason.⁷

In the presence of localized infection adequate antibiotic therapy and physical measures must be instituted when enzyme therapy is contemplated. Enzymatic preparations are not indicated in the presence of generalized or systemic infections including tuberculosis. The injection of hyaluronidase into infected areas must be avoided.^{8,17} The presence of extensive scarring or organization of exudate or blood clots generally renders enzymes ineffective.¹⁸ Enzymes are ineffective in the treatment of post-extraction alveolitis (dry sockets).^{21,22}

DISCUSSION

The rationale for the employment of certain enzymes to hasten resolution of inflammatory exudate is based on our understanding of the process of inflammation. We believe that streptokinase changes the serum factor plasminogen into an active enzyme plasmin which then catalyses fibrinolysis, and thereby promotes resolution of oedema. We believe that trypsin exerts a proteolytic action upon contact with clotted blood, exudate and necrotic tissue, despite the presence in serum of a specific trypsin inhibitor. This proteolytic action is said to hasten removal of exudate and cellular debris. But the variable course (with or without treatment) of the conditions for which treatment with streptokinase and trypsin has been proposed, makes it difficult to assess, in the absence of carefully controlled studies, what part in the overall improvement of the individual patient may be ascribed to an enzyme. Clinical observations tend to support the conclusion that the adjunctive use of these enzymes has a useful place in the management of inflammatory oedema, with or without infection. The evidence as presented, however, does not withstand critical evaluation, and more precise study is indicated prior to permanent establishment of their usefulness.

Hyaluronidase acts upon hyaluronic acid, which limits spread of intercellular fluids. The enzyme causes injected solutions or local accumulations of fluids to spread further and faster than normal

and facilitates their absorption. The enzyme could cause local infections to spread through the same mechanism, and until further evidence is available, its injection into or near an infected area can not be recommended. Further studies are needed to develop an accurate estimation of its effect when injected into a local inflamed area and its optimum dosage and solution volume.

Determination of the efficacy of enzyme therapy has thus far been hampered by the difficulty of developing practical, objective indices which are reliable enough to measure the clinical effects of enzymes.¹¹ Reports on these agents have, out of necessity, been based on clinical observation. Few of the studies have been well controlled. Most authors considered enzymes to be of demonstrable value in the treatment of postoperative trismus and oedema. Certain authors have indicated rather dramatic resolution of haematomas through the injection of hyaluronidase. Others have reported significant diminution of postoperative complications in oral surgery by the employment of prophylactic enzyme therapy. At least one investigator, however, has asserted that the skill of the surgeon is of more importance than the actions of enzymes in the reduction of postoperative complications.²³

Enzymes do not prevent the occurrence of oedema. The extent to which they limit its development or influence its resolution remains in doubt. The best prophylactic measure against oedema in oral surgery remains the gentle handling of tissues.

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A Canadian dental officer in France

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My family and I were posted to No. 35 Field Dental Unit of the Royal Canadian Dental Corps in France in July 1962. We were among the last military personnel fortunate enough to travel to Europe by sea.

Our first contact with Europeans was at Cobb, Ireland, where the ship lay out in the picturesque harbour while passengers and freight were ferried back and forth. Several trades people came aboard to sell their Irish linen and woollen goods. We purchased a wool stole from a quaint old lady right out of a C.B.C. TV Irish comedy. Later we were informed that her accent was purposely thickened to charm the tourists. At any rate, the stole shed so badly as to be unwearable.

The next port of call was Le Havre where we disembarked in the early evening, baggage, car and two children, to discover that we were completely on our own in a strange land. After clearing customs and filling the gas tank at a cost of

20 dollars, we drove into the city and located hotel rooms which will always be remembered for their red plush decor resembling a house of ill repute in contemporary novels.

The next morning, after a continental breakfast, we made our way slowly over the well marked highways of France toward R.C.A.F. Station Marville. At noon we stopped at a small village restaurant and then continued through the green countryside passing by vineyards, farms, small towns and larger cities where we occasionally lost our way.

At the end of the day, through trial and error, we arrived at R.C.A.F. Station Marville and were mercifully conducted the remaining 12 miles of our journey to the Married Quarters. As we topped the last rise in the road and the apartment blocks appeared in the dusk our hearts sank. For the long rows of paint flaked buildings with their central playing field were reminiscent of only one thing back home—St-Vincent de Paul Penitentiary. Upon entering, however, we found the apartment allotted us quite livable, and we began settling into our new home.

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LIVING ACCOMMODATION

The majority of Canadian military families here live in the so-called Married Quarters or P.M.Q.'s. These are long rows of four storey apartment blocks divided by as many as 15 entryways. Each entryway gives access to eight individual apartments. In the centre of these blocks is a playing field containing slides, swings, sand boxes and baseball diamonds placed and maintained by the P.M.Q. Council.

The apartment complex is owned by a French private concern referred to as the Sponsor. The Canadian Government guarantees a yearly rental revenue to the Sponsor which is in turn deducted from the salaries of the tenants in this 'Cité Canadienne.' Other service families live in a trailer park across the road from the base or rent furnished homes in the towns surrounding the Station. Virton, in Belgium, about 14 miles away, offers a fair amount of rented accommodation ranging from comfortable to poor.

The Cité Canadienne is located at the edge of the town of Longuyon in the Department of Meurthe and Moselle. The apartments are generally inferior compared to most in Canada and tenants have had to put up with insufficient heat in winter and yearly fumigation of their quarters due to the invasion of fleas and other vermin. The basements are inhabited by large families of cats which help to keep the rat population down and, of course, both species have their share of fleas and lice. In spite of this the living quarters are adequate, and can be made to look quite presentable with the addition of a few pictures and an ever growing collection of souvenirs picked up during one's travels.

The Cité Canadienne is administered by an elected P.M.Q. Council consisting of a mayor and aldermen representing several entryways divided into wards. The council reports to the Station Administration which in turn deals with the Sponsor.

Although modern housing in the local area is starting to make its appearance, Canadians in Married Quarters generally live better than the local populace, many of whom inhabit ancient dwellings and

draw their water from a communal well. Some houses in the nearby town of Sorey still have dirt floors.

RECREATION

In addition to P.M.Q. Council-sponsored activities, many recreational facilities are available at the base. Tennis, badminton, curling, golf, skating, bowling and swimming are all popular activities. For the more sedentary type there are a station theatre, station library and the various messes. Hockey, a very heavily attended spectator sport, is equally popular with Canadians and the local people who come from far afield to watch games between teams in the Air Division League or visiting teams from Liège, Chamonix, Nancy or as far away as Helsinki, Finland, who come to play against the No. 1 Wing Arrows. All these activities are supported by non-public funds.

The term non-public funds denotes money not provided by the Canadian Government. It is raised through direct assessment of servicemen in the various messes and clubs and from profits generated through sales of our grocery store and post exchange. These funds are used to build, maintain and improve recreation, social and shopping facilities on the base. Thus non-public funds come from the serviceman's own pocket.

EDUCATION

The married quarters complex contains a Department of National Defence school accommodating pupils up to grade five. Another school at the base accommodates grades six through to 13. Teachers are brought over from all the provinces of Canada, but the curriculum follows the program of the Ontario Department of Education.

SHOPPING

Shopping is mostly done at the base grocery store and post exchange. These

stock many luxury items such as watches, jewellery, perfumes but are likely to run out of staples like baby foods, toilet paper and various canned goods. A snack bar in the Married Quarters area stocks a small selection of necessary groceries for emergency shopping. Our meat is brought in from Denmark. Our milk comes from Holland as France, which gave the world Louis Pasteur, does not widely practise pasteurization or tuberculin testing of cattle. Tuberculosis is endemic in this country, over 85 per cent of the population being tuberculin positive before the age of 20.

Most fresh vegetables and wines are purchased in downtown shops or at the market in the town square of Longuyon every Friday morning. Here are seen the local ladies trying on girdles over their clothing or bargaining with the vendors. One can also capture the different exotic aromas emanating from the cheese or sausage wagons.

THE LOCAL PEOPLE

The local French inhabitant, unlike his countryman in the central or southern areas, is a rather dour individual somewhat lacking in Gallic charm. He, of course, has suffered a great deal in the past half century, his land having been occupied twice during that period by foreign invaders. A plaque attached to the French elementary school in downtown Longuyon bears witness to this. It commemorates the death of a local resident who was tortured to death in this school by the Gestapo. To many of these people the presence of Canadians represents another intrusion and many French-speaking Canadians have been disappointed by the cool manner in which they have been received by their 'cousins' in the mother country. On the other hand, we have met some charming people who have offered us friendship, warmth and good conversation. These are usually of the younger generation, presently in the 30 or 35 age group.

The immediate locale is mostly devoted to mixed farming, although a large heavy industry complex located at Longwy, near

the Luxembourg border, produces iron and steel from raw materials mined in the Vosges region to the south.

Cultivation and care of the land are given high priority here. One always smells the aroma of well 'manicured' fields wafting on the spring and summer breezes or sees the steaming piles of straw interlaced with animal excreta near the front doorsteps of farm houses. A local joke alleges that a farmer's wealth is measurable by the size of his manure pile. Although most farms are reasonably well mechanized, the wives still work the fields alongside the men.

THE BASE

No. 1 Wing R.C.A.F. Station Marville is situated in the Department of the Meuse and Moselle just south of the Belgian frontier and south-west of the Grand Duchy of Luxembourg. The base houses two squadrons of CF104 photo reconnaissance aircraft. As the President of France will not permit foreign nuclear weapons to be kept in this country, the Canadian squadrons with nuclear capability are based at No. 3 and No. 4 Wings in West Germany. In addition, No. 1 Wing is the European hub for No. 437 Squadron of Air Transport Command, which flies personnel, dependants, freight and mail across the Atlantic non-stop from R.C.A.F. Station Trenton in Yukon turbo-prop aircraft. No. 109 Communications Flight, also based here, furnishes air transport in Europe between the R.C.A.F. wings, Great Britain and Sardinia. This is carried out in Dakotas and Bristol freighters. Requisite administrative, engineering, supply, pay and health branches support these squadrons.

Contrary to the opinion expressed in a fairly recent issue of *Maclean's Magazine*, most of the officers and airmen of this and other R.C.A.F. wings are professionals in every sense of the word. They must contend with frequent moves, irregular and long hours of duty, personal hazards, separation from families who may be left inadequately housed, and sometimes with indifference or patronizing attitude of their countrymen.



Author's operating room at No. 1 Wing, R.C.A.F. Station Marville, France.

HEALTH SERVICES

The Station Hospital, staffed by five physicians, nine nurses and various technicians, offers a complete range of diagnostic and treatment services to military families. This is augmented by weekly visits of specialist consultants. A heavy traffic in obstetrics distinguishes the Station Hospital from normal military hospitals in Canada. No major surgery is

performed here, surgical cases being transferred to No. 3 Wing which houses a complete surgical staff along with specialists in gynaecology, internal medicine and radiology. Other specialist services like urology or orthopaedics are obtained from the American Armed Forces Hospitals nearby.

The Dental Clinic at No. 1 Wing is new, having been completed in January 1964. Prior to this we occupied rather cramped quarters in the Station Hospital. The clinic, which cares for both service personnel and their dependants, consists of three large operating rooms with the latest equipment, up to date dental laboratory, x-ray room, dark room, recovery room, stock room, orderly room, two waiting rooms and two private offices. The clinic is staffed by two dental officers, two chairside assistants and a dental laboratory technician who take care of all the needs of No. 1 Wing service personnel as well as transients from Canada; from the Canadian Joint Staff, London; and from the Air Weapons Unit at Deccimomanou, Sardinia. In addition, we house a civilian dentist and his assistant, hired by the Station non-public fund to care for all dependants of service personnel at a low fee schedule.

In our clinic, as in all other R.C.D.C. establishments, service patients are treated on the merit of the case and regardless of rank. The criteria are the co-operation and home care accorded by the patient and his particular requirements. Many servicemen have benefitted

Marville, dominated in the centre by its 14th century romanesque Eglise St-Nicholas et St-Hilaire.



from dental treatment that would have been denied them in civilian practices due to prohibitive cost. The dental officer, of course, benefits from the varied experience in diagnosis and treatment without the concomitant problems of fee collection and office overhead.

IN THE IMMEDIATE AREA

The town of Marville, from which the name of the base is derived, straddles the road between Married Quarters and the base. It dates back to Gallo-Roman times and still contains some vestiges of this era. The town church, Eglise St-Nicholas et St-Hilaire, was started in the fourteenth century and completed in the fifteenth. It is said that an underground radio transmitter was hidden and operated behind the altar in World War II with the help of the local Curé. Along the main street of the town are found several sixteenth and seventeenth century facades. Some of these houses are still inhabited.

All marriages, births and deaths of Canadian personnel are registered in the Marville Hôtel de Ville. Religious wedding ceremonies must be preceded by a civil ceremony according to the Napoleonic Code. These are officiated by the town mayor resplendent in his tricolored sash.

Across the highway from the town, on a hill, stands an old chapel and ossuary containing several thousand skulls, all neatly stacked in open compartments. These were all turned up in the fields of the local area and date back, some to ancient times, and some to the two world wars.

Montmédy, on the road from the base to Virton in Belgium, possesses fortifications started in the fifteenth century. It has, like many other sites in France, changed hands in the past between Burgundy and Hapsburg Austria and, in the sixteenth century owed allegiance to Spain. In 1657 Louis XIV here conducted his first siege assisted by Marshal de la Ferte. The town was ceded to France in 1659 and its fortifications were reconstructed by Vauban. In 1914 its gar-

ison was encircled and practically wiped out.

A few miles beyond Montmédy, in the direction of Sedan, is Avioth where my dental assistant lives with her airman husband. Avioth is a humble village, but surprisingly in its centre stands a fourteenth century basilica where my assistant sometimes attends Mass.

A 15 minute drive from the base leads to Loupy-sur-Loison where a Renaissance chateau was built by the Governor of Stenay in the sixteenth century. He bequeathed it to his nephew whose descendants still live here. The Loison River is rather amusing; in many places one can easily step across it as it meanders through the fields.

The crematorium at Thil is not listed in any guide books. We were taken there by one of our French friends. Behind the new cemetery at Thil stands the crematory oven over which has been built a shrine dedicated to the deportees from the Thil-Villerupt area. It is all that remains of a small slave labour camp where fewer than 100 persons were liquidated before the advancing allied forces caused the German guards to flee, setting the camp afire as they went. A plaque attached to the oven, which is of French manufacture, explains that it was originally made for use in the abattoirs of Paris but was commandeered by the Germans for their own nefarious uses.

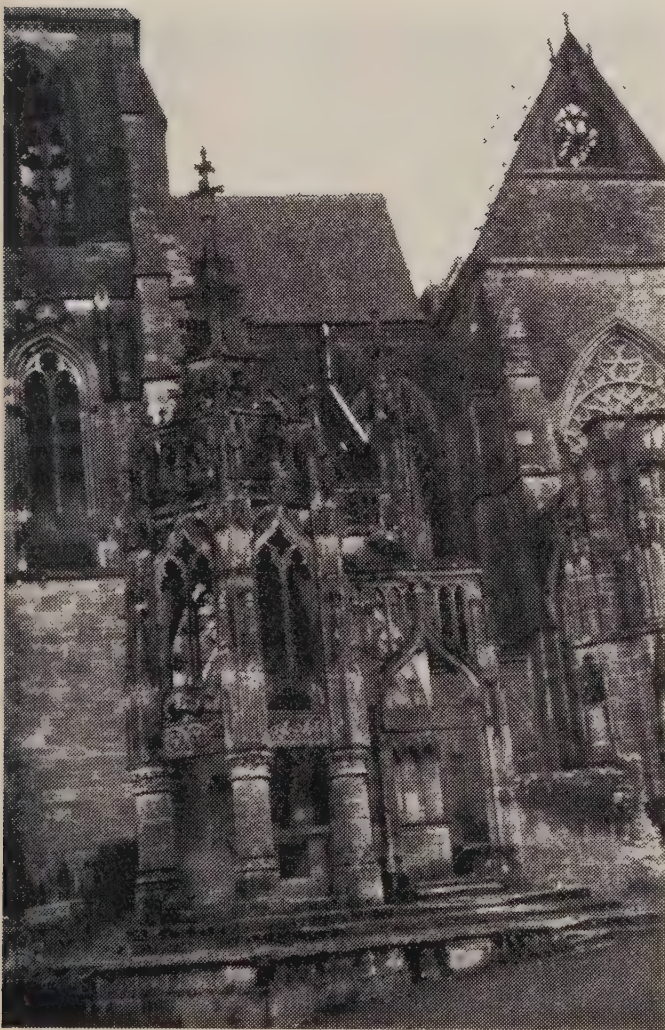
SLIGHTLY FURTHER AFIELD

The Grand Duchy of Luxembourg is studded with interesting feudal chateaux as at Vianden and Clairvaux. The capital, Luxembourg City, occupies a picturesque site on a high escarpment. The old city and the new are divided by the deep ravine of the Petrusse River and connected by several bridges.

In 1963 the city celebrated its thousandth anniversary with numerous religious festivals running from April to October. The origin of the city is traced back to a chateau built on a rocky prominence called Le Bouc which is riddled with fortified tunnels. The city was ruled by Bohemia in the twelfth century, Burgundy in the fifteenth, France in the



Part of an ancient wall in the town of Marville.



Fourteenth century
basilica at Avioth.





Renaissance chateau at
Loupy-sur-Loison.

Thil crematory.



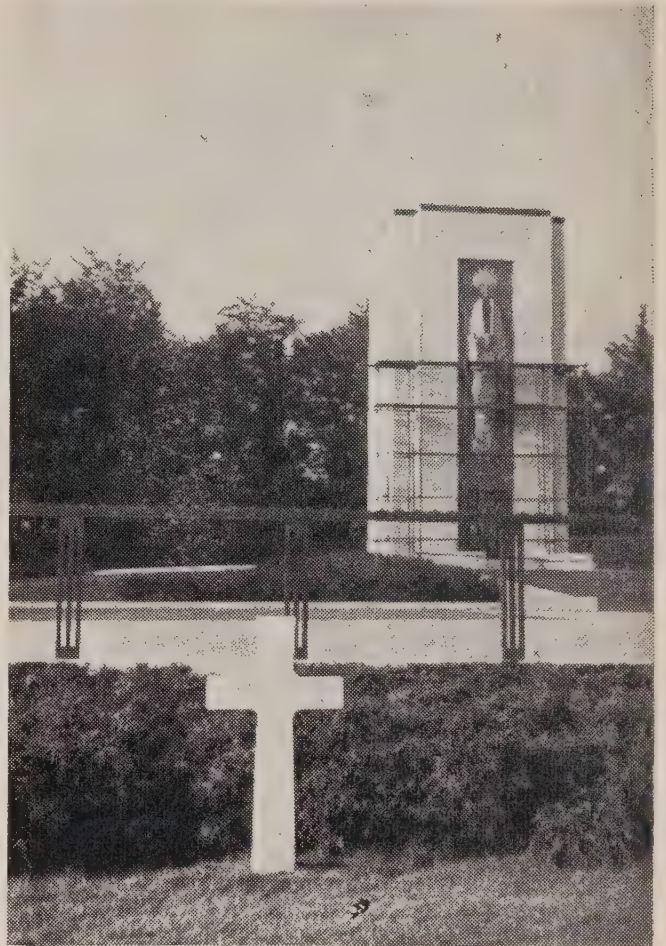
Feudal chateau at Clairvaux.

seventeenth, Spain for a short while in the seventeenth century, Austria in the eighteenth century, and France again. Although the 1867 Conference of London proclaimed the Grand Duchy's neutrality, it was invaded by the Germans both in 1914 and 1940. Luxembourg was liberated in February 1945 by General Patton, who lies at the head of his troops in an American Military Cemetery in Hamm, West Germany, just east of the city. Luxembourg today is the headquarters of the European Steel and Coal Community.

Bouillon is a picturesque town in Belgium whose old roofs edge down to the Semois River. It is dominated by a massive fortress which is the most interesting military fortification in Belgium of the mediaeval era. It was begun toward the year 1000 and it was from here that Godefroy de Bouillon, first King of Jerusalem, left to lead his army to the first Crusade.

To the south of our base lies Verdun, one of the oldest cities in France. It was a Gallic fortress and then Roman under the name Virodunum Castrum. From 1873, after the Prussians were expelled, until 1914 its fortifications and garrison were progressively strengthened so that, although the outlying strongpoints fell in the German attack of February 1916, the city held fast.

Famous battlefields surround the city. At Douaumont is a large ossuary erected to the memory of the 40,000 French soldiers who fell in defence of Verdun. In



Grave of General George S. Patton in the American Military Cemetery, Hamm, West Germany.

the centre of the monument is La Tour des Morts (the Tower of the Dead) from the top of which can be observed a panorama of the battle area.

La Voie Sacrée (Sacred Road) leads from Verdun southward to Bar-le-duc. Its stone road markers are topped by French



Fifteenth century fortified gate at Verdun facing the Meuse River.



Eighteenth century synagogue at Verdun. The building was desecrated by the Germans during World War II.



Douaumont Monument to World War I.

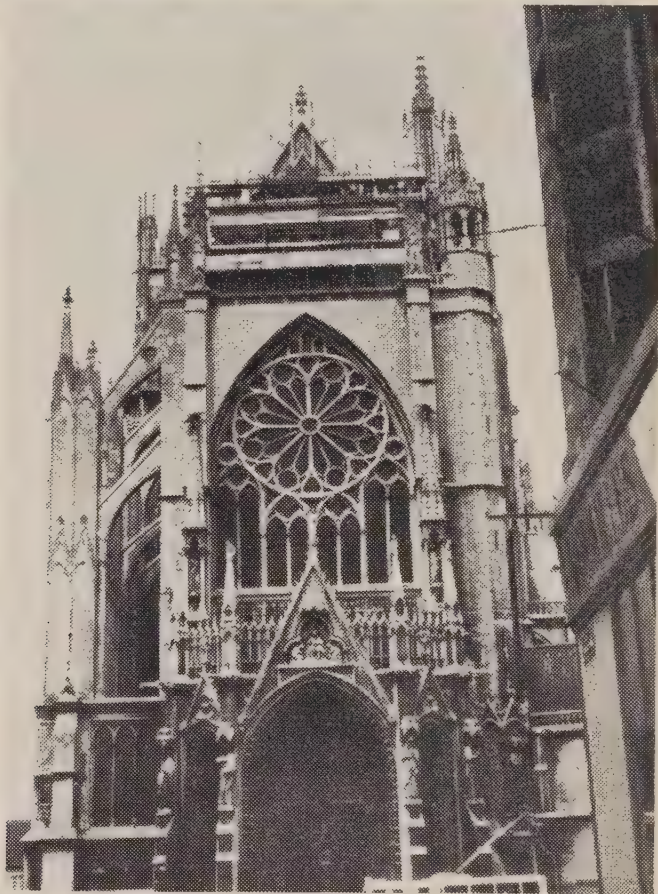


Birthplace of Joan of Arc at Domrémy.

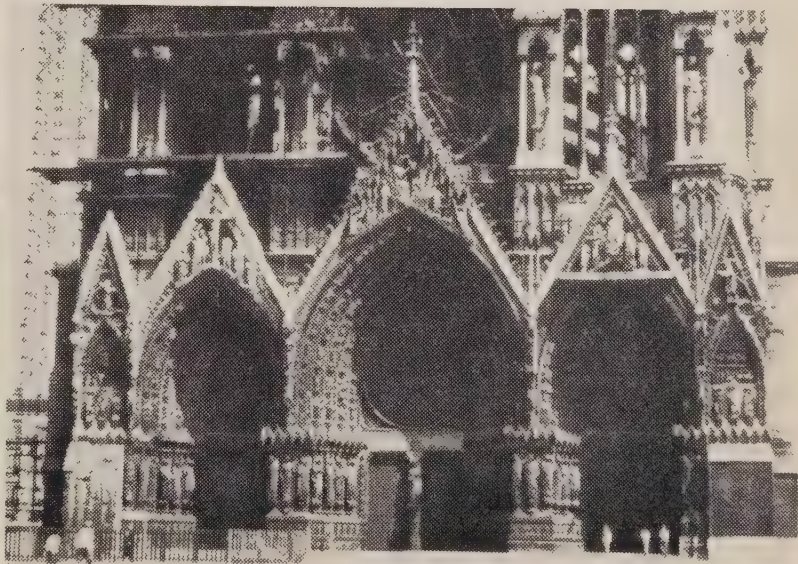
La Porte Allemande at Metz. This fortified gateway was built by a Teutonic order of Knights Templar during the fourteenth and fifteenth centuries.



Metz Cathedral.



Rheims Cathedral.



Poilu helmets. It was along this road that General Pétain supplied his troops in the beleaguered city during World War I. Pétain is still revered as the hero of Verdun despite the fact that he was sentenced to death after World War II as a Nazi collaborator. His sentence was commuted to life imprisonment by General de Gaulle, his friend and subordinate in the pre-World War II Army. Pétain died in prison some years ago. In his will he requested burial at the National Shrine at Douaumont. This, to date, has been denied him. There is, however, a movement afoot to rehabilitate the old Marshal's name in recognition of his World War I exploits, and because, it is said, his collaboration saved many French lives during the German occupation. On the other hand, Pierre Laval, his co-collaborator in the Vichy Government will always be remembered as a traitor in France.

ONE TO TWO HOURS DISTANT

Bar-le-duc, the prefectural seat of the Meuse Department, contains in its old town many completely intact Renaissance houses. Its sixteenth century Gothic Eglise St-Pierre houses the famous statue, 'The Skeleton' by Ligier Richier. This statue represents René de Châlons, Prince of Orange, killed in the siege of St-Dizier in 1544. His widow, Anne de Lorraine, commissioned the statue, accord-

ing to the wishes of the deceased Prince, to show his body three years after his death.

South of Verdun alongside the Meuse River is Domrémy-la-Pucelle, the birthplace of Joan of Arc. The house of her birth is still preserved and can be visited.

East of Verdun lies the city of Metz. R.C.A.F. Air Division Headquarters is located just outside the city in a gracious nineteenth century chateau. The headquarters of No. 35 Field Dental Unit is located in a cinder block building beside the chateau. Metz dates back to the sixth century. Charlemagne had a particular affection for the city for it is here, in the Abbey of St-Arnoult, that he buried his wife Hildegarde. In the twelfth century Metz was a free city and the capital of a small republic. In 1552 Henry II conquered it along with Verdun.

The city was taken by the Prussians in 1870 with little opposition, the greatest humiliation in the city's long and proud history. Metz was part of Germany until November 19, 1918 when French troops re-entered the city.

In 1944 a fierce battle was fought by the American Third Army to retake the city and on November 19 troops penetrated its streets, the anniversary of the day French troops entered it in 1918. The last Germans, however, did not surrender until November 22. The city contains many interesting buildings.

The Cathedral at Reims is world-renowned. If one tires of churches and



This monument in the town square of Bastogne is dedicated to General McAuliffe, commanding officer during the siege of the city in World War II, and commemorates the Battle of the Bulge at the end of World War II.

cathedrals, the champagne caves in the city can be visited and the products tested or the remaining Roman Gate of the city can be examined.

For more recent history, the area involved in the Battle of the Bulge through Luxembourg and Belgium can be visited in a day's travel by car. Bastogne is still remembered for the heroic resistance of the U.S. 101 Airborne Division. Celles was the point of deepest penetration of Marshal von Rundstedt's offensive toward the Meuse and Antwerp.

Other places of interest are Nancy, a major city south of Metz, and Liège in Belgium, a three-hour drive from Marville. In four hours we can reach Trier, Aachen, Cologne or Kaiserslautern in West Germany.

Five hours travel by car or rail will take one to Paris, Brussels or some areas in Switzerland. Thus weekends are often spent in interesting travel with no loss

of time from regular duties. In one evening we can leave Marville, have dinner in Belgium, after-dinner drinks in Luxembourg and still be home well before midnight; and this more due to the leisurely restaurant service than the distance travelled.

While on annual leave, of course, we travel further afield in the various countries of Europe. Some enterprising people have ranged as far as Tangier and Cairo. We have skied in the Austrian Tyrol, swum in the Mediterranean, visited the Chateaux of the Loire, attended opera and nightclubs in Paris, seen the bullfights in Barcelona, discovered the tombs of Richard the Lion Heart and Leonardo Da Vinci (yes, in France) and still are not sated with travel.

With a necessary job to do and new experience in travel beckoning, we have found our tour in Europe exciting, enjoyable and satisfying.

34 Morevil Wood Drive S.W.

French Language in Europe and America • French is the fourth most widely used language in Europe where it is native to 55 million people in France, Belgium, Switzerland, Luxembourg and the Valley of Aosta in northwestern Italy. French is also the fourth most widely spoken language in America where it is native to six million Canadians and 3.5 million people in the Republic of Haiti. French occupies second position at the United Nations, after English. — Jacques Capelovici, *Revue de la Confédération des Travailleurs Intellectuels*.

Cacoethes scribendi

Many a dentist is moved at some time or other to write a letter to the editor. Maybe he has read a controversial article and disagrees with the propositions advanced by the author. He knows the subject well enough to state his own views and he believes it would help others to know where he stands. So, grasping pen in hand, he dashes off a letter to the Journal. Maybe he is carrying the torch for a new idea, a new technique, a new philosophy. He has an urge to tell the world about it, but the thought of composing a formal article dismays him. So he writes to the editor instead. Or maybe he takes exception to a proclaimed policy of the Association, to an action of one of its councils or committees, or to the conduct of an office-bearer. He chooses to censure the Association, admonish the council, reprove the committee or reprimand the individual. Again he reaches for the implements of writing and pours his criticism into a letter to the editor.

And this is as it should be. Lively and stimulating correspondence columns are an asset to any worthwhile journal. They serve as a forum for the cut and thrust of spirited debate. And they provide a measure of the reader's interest in journal fare.

The three distinct types of letters — comment on a published article, the spontaneous creative contribution not obviously related to a previously published item, and the response to an editorial or news item — are handled in different ways. In the first example, the discussion is usually technical and often critical of the author. If it appears to have merit, this kind of letter is referred to the author for rebuttal. Such letters occasionally engender spirited debate in the correspondence columns. Communications of the second category, though few in number, are also most welcome. It is in letters of the third variety that readers exercise their prerogative to take the editor to task for divers reasons. The general reaction of the editor is to print adverse rather than favourable comment, since the latter usually only reiterates what has already been said.

An editor views his letters somewhat as a dean who meets an incoming class. Nothing would please him more than to see each member through to graduation and on to useful service. Similar feelings actuate the editor. Life would indeed be simpler and more agreeable if every letter to the Journal merited publication.

A major justification for publishing any letter is that it should serve a useful purpose. A letter that merely releases the writer's pent-up irritation against those who do not share his views, that has no purpose other than a purely emotional one, has little claim upon the pages of a professional journal. Words written under the stimulus of adrenaline may be suitable for the hustings, but an overdose of acrimony devoid of substantive content only leaves the impression that the writer was angry. True, a dash of controversy spices the Journal, but offensive tones only harden the opposition of those whose opinions contrast

with those of the writer and embarrass those who share his views. The principal consequence of publishing this type of missive is to render a disservice to the writer.

The value of a letter is obviously a matter of individual opinion. The editor has no desire to act as a censor, but this does not permit him to dispense with the dictates of acceptable writing. Although a notice at the head of the correspondence columns disclaims responsibility for the views expressed by correspondents, this does not absolve the Journal from all liability for what is printed. The reason is perfectly obvious: too many readers translate "John Doe writes" into "The Journal says." Therefore every correspondent owes it to himself and to his colleagues to be sure of his facts. If accusations are necessary, they must be founded on good evidence. No one has the right to make unfounded assertions in the hope that they are not inaccurate. Even if there were no legal implications, a sense of fair play should move the correspondent to give a balanced account of any given controversy.

We would also refer to the fact that a letter to the editor must be one within a reasonable meaning of the word — not a dissertation. Occasionally an author whose lengthy manuscript has been rejected for good and valid reasons will try to gain admittance to the Journal simply by tacking "Dear Sir" and "Yours truly" to the beginning and end of his article. But the same fate is reserved for his chef d'oeuvre under whatever guise it is submitted.

This, then, is the pattern of the correspondence section. If there are grounds for criticism, it is well to remember that as water cannot rise above its source, so the Journal can never rise above the quality of material submitted to it.

One in fourteen

A little over a year ago a province-wide oral cancer screening program was launched in Ontario. Eight hundred and thirty-eight cytological smears have been examined in the first 12 months since this cost-free service became available to Ontario's 2,464 dentists and their patients. Sixty-one (7.3 per cent) of these smear tests—one in 14—revealed the presence of cancer or precancerous tissue in patients who had no suspicion of their condition and who exhibited no obvious symptoms that might alert the dentist.

Happily, a number of these persons were spared the drastic and often mutilating forms of surgery that would have been required if the real nature of their affliction had come to light at a more advanced stage of this disease. For this good fortune they are indebted to the vigilance of their dentists. What is of concern, however, is that apparently only 380 Ontario dentists had occasion to take advantage of the screening program during this period. In a recent letter to all Ontario dentists, Doctors D. L. Anderson, H. A. Hunter and C. H. M. Williams of the University of Toronto express anxiety "that many dentists are still not availing themselves of the free facilities for screening of smears. By their failure to do so, they are depriving their patients of the benefits of a major scientific advance."

One of the greatest contributions the dentist can make to the health of his patients and one that draws him more closely than any other to his medical colleagues is the early recognition of neoplasms. All dental examinations and inspections should be made with a watchful eye for abnormalities of the mucosa. This is particularly true when examining the mouths of older patients who constitute an ever-increasing proportion of our population. It is important to remember in this connection that the function of the dentist is not one of diagnosis but that of suspicion and referral. Neither of these impose any great burden on the practitioner. Yet they may save the life of his next patient.

Special Report

C.D.A. Answers Royal Commission on Health Services

The Canadian Dental Association, in an official statement on the Report of the (Hall) Royal Commission on Health Services, has praised the Commission for giving prominence to dental health but sharply criticizes the Report for its stress on dental treatment and its inadequate emphasis on preventive dentistry. The 51 page C.D.A. statement, approved by the Board of Governors in Quebec City May 29, has been submitted to the Minister of National Health and Welfare.

The Association statement resulted from 11 months of intensive study of the Hall Commission proposals. A special steering committee, headed by R. A. Clappison of Toronto, examined the recommendations of the Hall Report and sought opinions from all facets of the profession—corporate members, provincial steering committees, governors, councils, committees, specialty groups and individual dentists — before developing a statement to reflect a national consensus.

The C.D.A. statement endorsed immediate adoption of the Hall Commission's recommendations concerning fluoridation. It also urged the federal government to conduct an educational campaign to encourage provinces and communities to accept the proposed fluoridation grant.

The C.D.A. also expressed general agreement with the Commission's recommendations on education and recruitment. Commenting on the distribution of dentists, the Association urged that grants be utilized to provide special subsidies to attract dentists to smaller centres in rural areas and specialists to medium-sized centres.

Agreement in principle was also recorded for the Commission's proposed Health Professions University Grant and Health Facilities Development Fund. The latter should, however, be kept entirely separate from the Hospital Construction Grant, the Association asserted.

Two major points of difference with the Hall Report emerge from the Association statement. They centre on the proposals for dental care of children and the use of auxiliaries.

The C.D.A. rejected the nation-wide children's dental treatment program advocated by the Commission because it would result in two separate unrelated dental services—one for adults in private practices on a fee-for-service basis, the other for children through a system of state dentistry rendered in public clinics. The Association also turned down the New Zealand style dental auxiliaries who, according to the Hall Report, would treat children in the public clinics. "There is no evidence to warrant such a rash and costly duplication of the British and New Zealand plans in this country," the C.D.A. asserted.

Instead, the Association called for prior implementation of recommendations concerning education, fluoridation and research which will increase the number of dentists and decrease the need for treatment. Particularly stressed was the need to mobilize all possible educational forces to increase awareness of individual responsibility for maintaining optimum oral health through good oral hygiene, a balanced diet and regular dental care. The C.D.A. therefore urged that dynamic

educational programs be established for this purpose in all health regions of Canada. If the federal government initiates the proposed Children's Dental Health Grant, it should be used for surveying dental needs and establishing permanent public health programs. If treatment services are introduced, they should be provided in private offices by dentists on a fee-for-service basis. Any such programs should be established and administered provincially. Other arrangements should be used only where private practice is not possible.

The C.D.A. statement also rejected the Dental Auxiliary Advisory Training Committee envisaged in the Hall Report. Instead, the Association asked that an independent investigating committee study all aspects of auxiliary dental services before committing Canada to the multi-million dollar cost of public clinic facilities and training facilities for the auxiliaries recommended by the Commission. This investigating committee should first consider what types of auxiliaries are necessary, what they should be trained to do, and how their services should be utilized in private practice and public service. The C.D.A. suggested that the investigating committee be composed of representatives of dental practitioners and educators appointed by dental organizations together with representatives of the government. An impartial chairman acceptable to the dental and government representatives should be appointed.

The C.D.A. statement noted that extension of auxiliary services has been under continuing study for several years. The Association enumerated the following concepts in this connection:

(a) The services rendered by auxiliaries must not include those operations requiring the scientific knowledge of the fully qualified dentist (e.g. case assessment, treatment planning, cutting or severing of hard and soft tissues, administration of drugs, making prescriptions), but should include many of the technical operations and technical parts of operations for which purpose auxiliary personnel has been adequately trained.

(b) Auxiliaries should be under the supervision of the dentist. The dentist

must retain full responsibility for the services he prescribes regardless of whether these are rendered by himself or by an auxiliary.

(c) Any extension of auxiliary services should be accomplished by expanding the duties of the dental hygienist.

(d) Rather than endorse the proliferation of several varieties of auxiliaries, the Association believes that the need for special types of auxiliaries—e.g. in orthodontics or prosthodontics — can best be met by supplementing the basic training of the dental hygienist.

(e) The dental hygienist should continue to be educated at recognized dental schools where she can be trained to work in conjunction with the student dentist.

(f) Auxiliaries should not be trained to render dental care to a particular age group of the population. Auxiliaries who are not capable of providing services for adults are certainly not capable of providing services for children.

(g) Auxiliaries should not be trained to work only in government service.

The C.D.A. statement went on to question the Commission's estimates of time required to give initial dental care to a child. Because of the crude nature of these estimates, the C.D.A. believes it would be folly to base financial and manpower requirements on these figures without further study. Other inconsistencies cited by the C.D.A. were the unfounded assumption that the Commission's proposed auxiliaries would be as productive as dentists and that a dentist could put in 1,500 chairside hours per year in the children's dental program while he simultaneously supervises four auxiliaries.

Commenting on these observations, the C.D.A. statement emphasized how little reliable data exist on which can be based estimates of the requirements of a public dental program. The Association warned that it is impossible to make reliable estimates of the manpower, money and facilities necessary for the program recommended by the Commission unless the dental needs of the children, in terms of treatment time, and probable utilization rates and the productivity of the dental team are known.

Summary of C.D.A. Statement

on Recommendations of the

Royal Commission on Health Services

It is recommended that there be established in all health regions of the country dynamic educational programs directed towards teaching children and adults the importance of dental health and the individual's responsibility in maintaining it.

The Association endorses the immediate adoption of the recommendations concerning fluoridation (45, 46, 48 and 49) and urges the federal government to conduct a campaign to encourage provinces and communities to accept the fluoridation grant.

We agree in principle with the recommendations on education and recruitment (155 to 161, 163, 164 and 167) and urge that, modified as suggested, they be applied at once. We believe that provincial health departments and health regions should offer special subsidies to attract dentists to small towns, villages and rural areas and specialists to medium-sized centres. We also agree in principle with the establishment of the proposed Health Professions University Grant and the Health Facilities Development Fund but think the latter should be kept completely separate from the Hospital Construction Grant.

We agree with the recommendations on research (177 to 185), but feel that the proposed progressive annual increase in the operating budget of the Health Sciences Research Council would be inadequate.

All provinces should introduce programs of basic dental services for recipients of public assistance and their dependants (52 and 53).

The recommendations concerning the establishment of hospital dental departments (54 to 57) should be adopted immediately.

Dentists who are competent and adequately trained to render services included under the medical services benefit should be reimbursed under this benefit when they perform these services for eligible patients (30 f and j).

It is recommended that an independent investigating committee be established to study all aspects of auxiliary dental services. This committee should report at the earliest opportunity.

The C.D.A. is opposed to the establishment of the Children's Dental Program recommended by the Commission.

If the federal government initiates the Children's Dental Health Grant, it should be used for surveying dental needs and establishing permanent public health programs. The establishment and administration of dental programs should be a provincial responsibility. Should treatment services be introduced, they should be provided in private offices by dentists on a fee-for-service basis. Other arrangements should be used only where private practice is not possible.

Christie installed as president at Quebec convention

On Monday May 31, dentists and their guests from Canada and abroad gathered in Quebec City for the Sixty-Fourth Annual Meeting of the Canadian Dental Association. A comprehensive scientific program, including panel discussions, essays, projected clinics, table clinics, motion pictures, scientific and technical exhibits, presented the latest information available on all aspects of dentistry. The annual meeting of the Board of Governors, held from May 26-29, preceded the convention. The members of the Board, in considering the nation's dental health problems, set policies for the Association for the coming year.

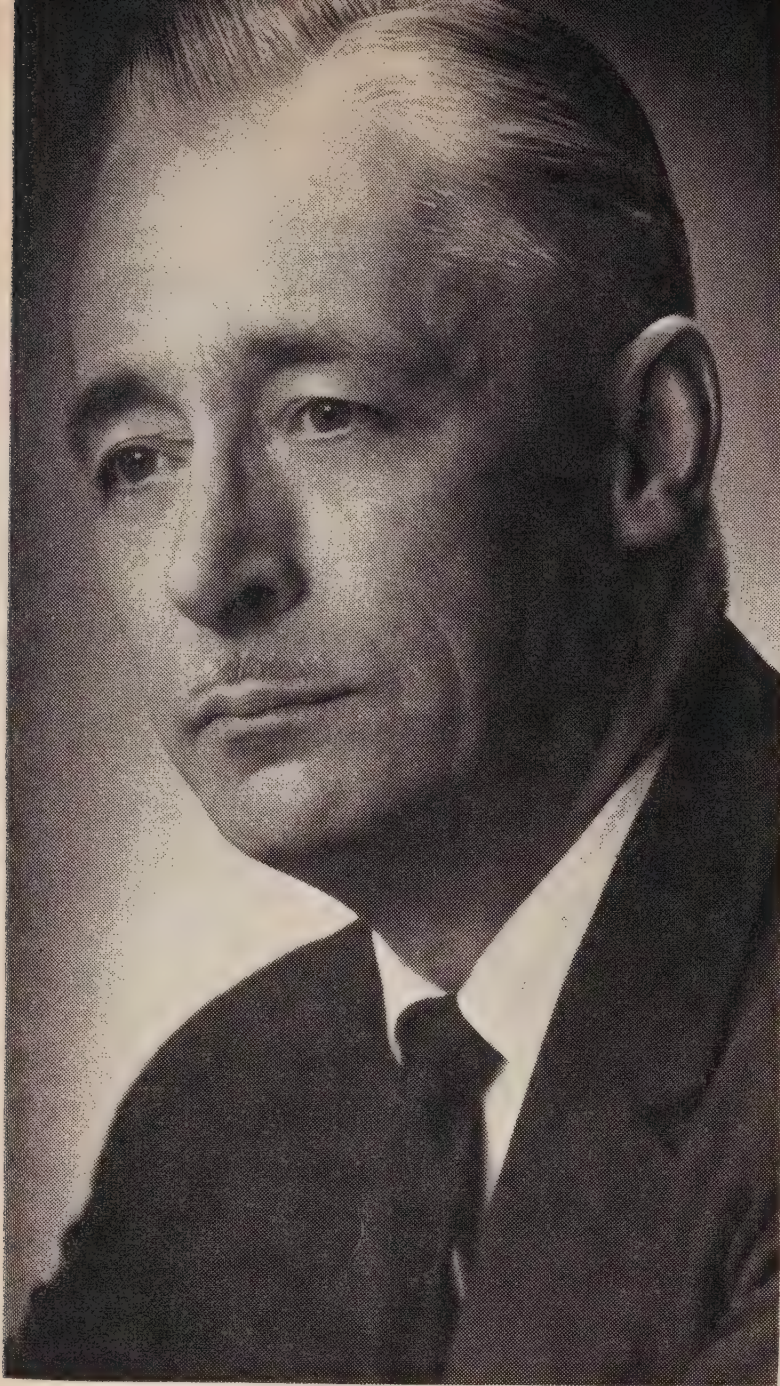
P. S. Christie of Halifax was installed as 45th president of the Canadian Dental Association at the noon luncheon, May 31. He succeeds Rémy Langlois of Quebec City. Past President G. M. Dewis, also of Halifax, officiated at the installation.

Born in Halifax, Dr. Christie earned a D.D.S. degree from Dalhousie University in 1939. He served with the Canadian Dental Corps in Canada and the United Kingdom between 1939 and 1943. Dr. Christie has practised in Halifax since 1944. He is professor of orthodontics at Dalhousie University. A past president of the Halifax County Dental Society and of the Nova Scotia Dental Association, Dr. Christie has served on the Canadian Dental Association's Board of Governors since 1958 and on the Executive Council since 1960. He is a fellow of the International College of Dentists.

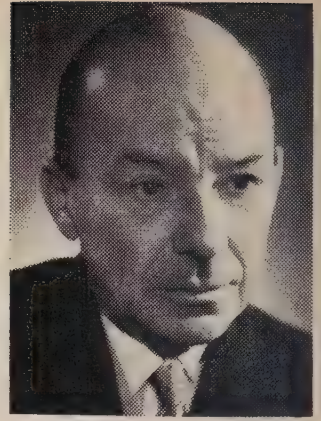
J. P. Coupland of Ottawa was named president-elect of the Association. A member of the Executive Council, Dr. Coupland has also been a member of the C.D.A. Board of Governors representing the Royal College of Dental Surgeons of Ontario.

Named as members of the Executive Council were W. P. Munsie of Vancouver, J. M. Chamard of Montreal, W. G. Bruce of Kincardine, Ontario, and H. R. MacLean of Edmonton.

Elected as chairmen of councils and committees were P. S. Christie of Halifax, Executive Council; H. M. Cline of Vancouver, Council on Constitution and By-laws; James McCutcheon of Montreal, Council on Education; J. P. McGuigan of Halifax, Council on Ethics; J. D. Purves of Toronto, Council on Journalism; A. H. Crowson of Ottawa, Council on Legislation; A. R. S. Gray of Calgary, Council on Public Health; K. J. Paynter of Toronto, Council on Research; G. C. Swann of Calgary, Auxiliary Services Committee; W. B. Coleman of Halifax, 1966 Convention Committee; R. A. Clappison of Toronto, Dental Services Committee; H. W. Reid of Toronto, Headquarters Property Committee; D. M. Wallace of Agincourt, Ontario, Hospital Services Committee; F. H. Compton of Toronto, Necrology Committee; J. P. Coupland of Ottawa, Nominations Committee; M. A. Rogers of Montreal, Specialists and Spe-



P. S. Christie, President



Paul Geoffrion

cialization Committee; and Louis Lepine of Montreal, War Memorial Awards Committee.

Honorary membership in the Canadian Dental Association was conferred on Paul Geoffrion, former dean of the Faculty of Dental Surgery, Université de Montréal.

Official international representatives were F. A. Pierson, president of the American Dental Association, L. M. Ennis, president of the International College of Dentists, and Claude Wright of the Jamaica Dental Association.

Local arrangements were made by Quebec dentists acting under the direction of Louis Bernier, convention chairman.

Board of Governors Actions

At the opening session members of the Board of Governors and others in attendance rose for one minute of silence in tribute to Association members who died during the past year.

The Board considered reports submitted by each of the Association's bureaux, committees and councils, and took the indicated action in the following matters:

Adopted a statement by the Canadian Dental Association regarding recommendations of the Royal Commission on Health Services. This statement will be transmitted to the Minister of National Health and Welfare;

Recognized prosthodontics and paedodontics as dental specialties and recog-



Prior to consideration by the Board of Governors, issues were debated in the reference committees. A reference committee of the whole Board (shown above) which considered the draft statement of the Steering Committee on the Report of the Royal Commission on Health Services drew a full attendance and heard vigorous discussion before the final version of this statement received unanimous approval.

nized the Canadian Academy of Prosthodontics as a section of the Canadian Dental Association;

Approved amendments to the Constitution of the C.D.A. Orthodontic Section;

Approved new terms of reference for the Council on Legislation;

Amended the C.D.A. Constitution and Bylaws to clarify appointments made for a partial term of office created by the resignation of an incumbent office holder;

Requested that the Council on Constitution and Bylaws give further study to an application from the Yukon Dental Association seeking corporate membership status in the C.D.A.; and

Adopted a budget amounting to \$332,000 for 1966.

EDUCATION AND TRAINING

The Board also:

Asked the National Dental Examining Board of Canada to withhold results of NDEB examinations until candidates have been recommended for graduation by their respective dental schools;

Directed that the Council on Education establish an aptitude testing program for applicants to Canadian dental schools;

Recommended that each corporate member develop a comprehensive plan with respect to the training and employment of dental auxiliary personnel as part of the dental health team, and asked that these plans be submitted to the Auxiliary Services Committee for pre-



The C.D.A. Board of Governors faced a heavy schedule of important issues in Quebec City.



C.D.A. Secretary W. G. McIntosh solves a knotty problem to everyone's satisfaction.

sentation at the 1966 annual Board meeting;

Recommended further studies on dental auxiliary personnel prior to implementation of any proposals such as those contained in the Report of the Royal Commission on Health Services;

Recommended that university dental schools conduct pilot studies on extension of services by the graduate dental hygienist (within the framework of current C.D.A. policy on auxiliary personnel); such studies to determine the time required for training such personnel, their

productivity, and the results of their integration into the dental health team;

Supported the proposal for a national certification program for dental assistants;

Approved the principle of formal training programs and certification for dental laboratory technicians; and

Requested that study be given to the possibility of a system of accreditation for dental laboratories.

RELATIVE VALUE SYSTEM FOR FEES APPROVED

In other actions the Board:

Approved a revised draft statement of the Relative Value Method of Fee Determination developed by the Dental Services Committee;

Approved revisions to the C.D.A. reference list of dental services;

Recorded opposition to the principle of pro-rating fees; and

Received information concerning the activities of a New Zealand dental nurse employed in the Whitehorse region of the Yukon Territory.

JOURNAL AND OTHER

The Board also:

Adopted principles for editorial policy and concurred with new arrangements governing the French content of the *Journal of the Canadian Dental Association*;

Adopted a policy governing the use of American Dental Association 'statements and seals of acceptance' in connection with professional and public advertising of dental products in Canada;



C.D.A. staff secretary Helen Collins (above) is momentarily puzzled by a Board member's query.

Appointed D. L. Rife of Toronto and Henri Hamel of Quebec City as C.D.A. representatives to the Second Canadian Conference on Children to be held later this year in Quebec City;

Reiterated support for fluoridation of communal water supplies;

Recommended revision of the C.D.A. brochure on hospital dental service;

Recommended formation (by the Hospital Services Committee and the Council on Education) of a committee to formulate policy regarding inspection and assessment of dental training programs in hospitals;

Urged all corporate members to establish provincial hospital services committees;

Urged that further negotiation be undertaken at some suitable time with the Department of National Revenue with a view to broadening tax deductible allowances for dentists;

Asked the Specialists and Specialization Committee to review the definition of a 'specialist' in the light of contemporary needs;

Directed the Executive Council to study ways of providing additional assistance to the Bureau of Public Information;

Recommended that the Executive Council establish a policy regarding exhibitors at national conventions and commercial firms that offer financial assistance for convention programs;

Requested that the submission of reports for the annual meeting of the Board of Governors be advanced so as to permit fuller consideration of these reports by corporate members prior to the annual meeting;

Concurred with a resolution by the Executive Council (dated September 23, 1964) extending C.D.A. support to Professional and Industrial Pensions Limited, administrator of C.D.A.-approved pension and insurance plans, for a period of five years;

Concurred with a recommendation that the War Memorial Awards Committee be dissolved and its responsibilities transferred to the Council on Education;

Received a report from the Canadian Fund for Dental Education; and

Congratulated President G. E. Hall on

the establishment of a new dental school at the University of Western Ontario.

Executive Council Actions

The Executive Council met twice in Quebec City—immediately preceding and immediately after the Board of Governors session.

The Council:

Recommended that the War Memorial Awards committee be dissolved after the 1966 annual meeting and that its duties be transferred to the Council on Education on the basis of terms of reference to be recommended by that council and subject to the approval of the Board of Governors;

Appointed Georges Pelletier of Montreal as French associate editor and approved new arrangements concerning French language content of the *Journal of the Canadian Dental Association*;

Rescinded a motion adopted at its February 15-18 meeting which established a moratorium on further applications for specialty recognition;

Confirmed the appointments of R. G. Ellis, Toronto, as 1967 convention chairman, and Roger Charette, Montreal, as 1969 convention chairman;

Received a progress report outlining suggested new specifications for the conduct of C.D.A. annual meetings and national conventions;

Received information on the establishment of two new dental advisory committees to the Department of National Health and Welfare;

Received a progress report on dental legal protective arrangements;

Reviewed current developments regarding hospital and medical insurance plans for Ontario dentists;

Approved a further joint executive meeting between the Canadian and American Dental Associations at a time judged mutually convenient to both associations; and

Directed that the Canadian Dental Association not become involved in sponsorship of overseas tours.



Presentation of a silver tray to retiring President Rémy Langlois.

Presidential Address

Consideration of the C.D.A. statement on the dental recommendations of the Report of the Royal Commission on Health Services was without doubt the most important single item of business at the Board of Governors meeting, said C.D.A. President Rémy Langlois when he delivered the annual presidential address on May 31. He commended the C.D.A. Steering Committee for the manner in which it had developed this statement. "The statement was national in scope and received unanimous approval," Dr. Langlois declared. He added that the statement would be published and transmitted to every dentist in Canada. The statement will also be forwarded to the Minister of National Health and Welfare.

President Langlois also praised Gérard DeMontigny, former French editor of the *Journal of the Canadian Dental Association*, for his many years of devoted service on behalf of the Journal and the profession. He extended a warm welcome to Georges Pelletier of Montreal as new associate French editor.

Doctor Langlois then announced the winners of the 1965 War Memorial Awards competition: (1) D. C. Chin of Montreal and (2) A. E. Dempster of Toronto.

He concluded his remarks with a stirring call for continued unity, goodwill and co-operation within the profession.

National Convention Highlights

The National Convention program opened with a delightful French style 'Bal Murette' on Sunday evening, May 30.

The principal essayist on Monday morning was H. I. Margolis of Boston who delivered the George Wellington Grieve Memorial Lecture. Dr. Margolis was followed by group clinicians A. F. Lindquist, Kansas City (cleft palate infants); Paul Rondeau, Vancouver (general anaesthesia); M. A. Rogers, Montreal (local anaesthesia); L. E. Francis, Montreal (pharmacology); and Imre Donath, Montreal (endodontics).

Retiring C.D.A. President Rémy Langlois was the speaker at the Canadian Dental Association luncheon on Monday afternoon.

A further group of clinicians presented papers during Monday afternoon. They were John Vincelli, Montreal (gnathology); Henryk Silbert, Montreal (endo-



Installation of P. S. Christie (above r.), new C.D.A. president.

dontics); R. H. Johnson, Montreal (oral diagnosis); Roland Baribeau, Trois-Rivières (prosthodontics); and Zdenek Mézl, Montreal (pathology). A further paper on periodontics was presented by J. G. Dale of Toronto that same afternoon.

Intensely popular also on Monday afternoon was a panel discussion on the relative value method for determining dental fees. Panel participants were R. A. Clappison, R. C. Freeman and W. W. Pressey, all of Toronto.

A. J. De Pietro of Philadelphia delivered the principal essay on Tuesday morning. Dr. De Pietro's topic dealt with concepts of occlusion. Other clinicians that morning were Georges Pelletier (periodontics), W. B. Donohue (oral surgery), Harry Rosen (operative dentistry), Donald Kepron (prosthodontics), and G. H. G. Weinlander (paedodontics), all of Montreal. R. A. Rocke, Westville, Indiana, completed this portion of the program with a presentation on orthodontics.

The Tuesday afternoon session began with clinical presentations by A. J. De Pietro (occlusion); Yves Dufresne, Trois-Rivières (aesthetics in dentistry); Jacques Fiset, Montreal (prosthodontics); H. I. Margolis (orthodontics); and Anders Bennick, Toronto (orthodontics).

The C.D.A. panel discussion on the Report of the Royal Commission on Health Services was held later that same afternoon. Panel participants included Jean Marchand, former president of the National Confederation of Trade Unions;



Presidential remarks by P. S. Christie.

J. M. Chamard, a Montreal practising dentist and member of the C.D.A. Executive Council; and Dean J.-P. Lussier of the Faculty of Dental Surgery, Université de Montréal.

The program continued on Wednesday morning with clinical presentations by E. R. Ambrose, Montreal (operative dentistry); Yves Dufresne (aesthetics in dentistry); R. A. Rocke, Westville, Indiana (orthodontics); Claude Madore, Montreal

Continued on page 473

Halifax hi-jinks? Not really. Just a group of enterprising Nova Scotians publicizing the 1966 national convention in Halifax June 12-16.



Report from Manitoba

Legislative Committee Tables

Interim Report on Dental Services

On May 6 the Special Committee on Dental Services of the Manitoba Legislature tabled an interim report in the Legislative Assembly at Winnipeg. This committee was asked last year to examine and make recommendations on all aspects of the role to be filled by dental technicians and denturists in the provision of dental services to the people of Manitoba. In its report the committee states that it proposes to develop a program in its final report based on the following general principles:

"1. The main purpose of dentistry is the preservation of live teeth and not the sale of a dental appliance. People must be encouraged to save teeth as long as possible. It must be realized also that the dental appliance is not just a mechanical device that can be installed by unqualified persons; nor can the dental appliance be separated from the diagnostic and curative talents of professional people. The dental appliance is for many people a necessary aid to life and health; as with all other matters relating to the life and health of a person it must be right, correctly administered and available at a cost within the means of the general public.

"2. Dentists must retain full control of and be fully responsible for the oral health of the public. The responsibility for prescribing and fitting of dentures must remain with the dentist.

"3. The dental technician and denturist have developed limited skills which should be used to the maximum advantage of the public. These limited skills should be utilized as an auxiliary arm

for the dentist to permit him to provide a greater, more knowledgeable and highly skilled service to the people of Manitoba. To aid in accomplishing this there should be only two classes of dental auxiliaries—dental hygienists and dental technicians—both with prescribed qualifications and training. In its final report the committee will make recommendations concerning a Dental Technicians Act governing qualifications, training, responsibilities and licensing. The Department of Health should be made responsible for administration and enforcement of such an act.

"4. While no positive evidence was adduced that the supply of dentures directly to the public illegally has created a general public health hazard, ample evidence has been provided to indicate that there are definite individual health factors involved and that it is in the public interest that only a qualified person work in the patient's mouth. This is especially so since the practice of fitting dentures immediately after extraction has increased. The committee is considering the feasibility of the following procedure:

"Impressions will be taken by a dentist, or a properly qualified dental auxiliary under his direct supervision and control. If the patient then wishes, he may determine that the complete upper and/or lower dentures be fabricated by a dental technician of the patient's choice on prescription or work order from the dentist. In such cases the dentures would be returned to the dentist for fitting and adjustment. At no time would the dental technician fit or adjust dentures or work

in the mouth.

"5. It is not essential that minor repairs be supervised by a dentist. Duly licensed dental technicians could be permitted to repair dentures directly for the public provided they do not work in the patient's mouth. The dental technician would then charge the patient directly and be solely responsible for his work.

"6. The committee noted that there are people who assume incorrectly that the term "denturist" means a specialist in the making and fitting of dentures and implies a status, skill and knowledge in the denture field higher than, or at least equal to, that possessed by the dentist. The committee is of the opinion that the use of the word "denturist" as describing any form of occupation, is misleading and should be prohibited.

"7. The committee is considering recommendations whereby the Faculty of Dentistry of the University of Manitoba would be responsible for the development of training programs in all fields of oral health although not necessarily in university facilities. The Faculty of Dentistry would thus assure the maintenance of a high standard of dentistry to the benefit of all. Every program to provide an increase of dental hygienists and dental technicians will aid the dentist by relieving him of much of his routine work except direct supervision, thus permitting more patients per dentist. This committee is considering recommendations providing for the utilization of the experience of the denturist through the training programs for dental hygienists and dental technicians and through a Dental Technicians Act. It is hoped that the services of present denturists (who number approximately 15 in Manitoba as opposed to over 100 dental technicians)

could be absorbed as auxiliaries into the field of dental health.

"8. The relationship between the public and the dentist could, in the committee's opinion, be improved. In the final report, recommendations toward this end will be made. As an example, the committee is considering proposals that the [Manitoba] Dental Association: (a) prepare and publish a schedule of fees; (b) advise patients of the dentists' existing grievance committee if a dispute arises over fees; and (c) require the dentist who works with a patient desiring dentures to submit to the patient the complete bill showing the dental technician's charges and his own professional fee separately.

"9. The committee noted that since 1960 one of the most significant areas of progress in the supplying of low cost dentures has been the operation of the Manitoba Denture Clinic. This clinic, operated by the dentists, recorded in their brief to the committee, 9,436 patients as having been treated in the clinic. Full dentures are supplied at a price of \$85 to any Manitoban without any means test and with time payments, as required. This price is comparable to the minimum charges of present day denturists. The committee considers that the operations of the Manitoba Denture Clinic, if expanded throughout Manitoba, could be a major factor in maintaining denture costs within the means of the general public and thereby relieving the problem under study. The committee is considering recommendations providing for the continued operation, expansion and wider advertisement of the services of the Manitoba Denture Clinic."

In its final report the committee will document its findings and recommendations in detail.

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(sterilization); and A. J. De Pietro (occlusion). Numerous table clinics on orthodontics, prosthodontics, operative dentistry, crown and bridge prosthodontics, paedodontics, surgery, practice management, endodontics, photography in den-

tistry, radiology, periodontics, dental public health, and dental hygiene rounded out the Wednesday morning session.

Wednesday afternoon was taken up with a third panel discussion involving 12 clinicians.

J. B. Macdonald, president of the Uni-



NEW FRENCH ASSOCIATE EDITOR

Georges Pelletier of Montreal on June 1 became French associate editor of the *Journal of the Canadian Dental Association*, succeeding Gérard de Montigny who resigned in September, 1964. Dr. Pelletier received his D.D.S. degree from the Université de Montréal in 1951. Following postgraduate studies in periodontics at New York University College of Dentistry, Dr. Pelletier returned to his native city in 1952. He served as a clinician and later was assistant professor and head of the Department of Periodontics at the Université de Montréal. He currently practises in Montreal as a periodontist.

versity of British Columbia, was the speaker at the luncheon on Tuesday tendered by the College of Dental Surgeons of the Province of Quebec. The Dental Association of the Province of Quebec was the official host for the Wednesday luncheon. On Wednesday night Quebec Health Minister Alphonse Couturier was the speaker at a dinner tendered by the Province of Quebec. This was followed by the C.D.A. President's Ball, an event which brought the official program to a close.

Canada and the Provinces

Education Fund Reports to C.D.A. Governors

Reporting to the Canadian Dental Association Board of Governors' Annual Meeting, Canadian Fund for Dental Education Chairman J. D. MacLean of Halifax said grants made in 1965 totalled \$17,500; \$9,500 as teacher-training fellowships to dentists and \$1,000 to each of the eight Canadian dental schools. (In 1964, its first year to make grants, CFDE granted \$6,000 for four teacher-training fellowships.)

Contributions to CFDE in 1964 were \$37,000 compared with \$25,000 in 1963. Contributions were made by dental associations, dental supply companies and individual dentists.

Purpose of CFDE is to provide a national source of support for dental education in Canada. Contributions qualify for income tax deduction.

Dental Nurses for Saskatchewan?

According to the May 15 *Saskatchewan Health Newsletter*, the government of that province will soon discuss with the Saskatchewan College of Dental Surgeons the idea of instituting a dental health plan patterned on the New Zealand School Dental Service. The report also quotes Saskatchewan Health Minister D. G. Steuart as saying: "The administration is seriously examining ways of attracting dentists from other parts of Canada, the United States, and Great Britain to take up practice in the smaller centres of the province where dental services are not now available. We hope to work out plans in conjunction with the College of Dental Surgeons which will ensure not only an increase in the number of dentists, particularly in rural areas, but maintenance of high standards as well."

International Items

List Accomplishments of New Zealand Dental Nurse Program

In a paper to the San Francisco Convocation of the American College of Dentists last November, Sir John Walsh, dean of the University of Otago Dental School, reviewed the development of the school dental service in New Zealand and quoted some statistics on the dental health of children. "In the most recent annual report the number of nurses in the field was 978. There are over 1,000 treatment

centres in which nearly half a million school children are receiving dental treatment; over 2,300,000 fillings were placed in the year 1963. The ratio of extractions per 100 fillings has fallen from 73 per cent in 1925 to 7.5 per cent in 1945, and 3.6 per cent in 1964"

"It is doubtful if any country anywhere provides a more complete dental treatment service to all its school children than New Zealand does," Sir John declared. "As a result, in spite of the high caries prevalence, an increasing number of young people are growing into adult life with all their own teeth. In 1952, 29 per cent of 18 year old military recruits were wearing or needed some dentures, but this figure had fallen to 11.4 per cent by 1958." (Dental examinations of New Zealand recruits during the second World War had revealed that 58 per cent of the recruits either needed or were wearing full or partial dentures.)

Beck (unpublished) has compared the dental health of New Zealand and United States children. DMF surfaces per cent in each case was similar but the amount of treatment done for the children was quite different. Whereas the average ratio of filled to DMF teeth (F:DMF) for New Zealand was 82.8 per cent, the figure for the United States was 38.4 per cent, Sir John said.

"From the viewpoint of preventive dentistry progress has been slower. Dietary habits have perhaps improved a little in the past 50 years. Oral hygiene is better than it was, but the credit for this should most likely be given to tooth paste advertising." Sir John added that the use of fluorides as a preventive measure is growing rapidly throughout New Zealand. At present approximately 200,000 people in New Zealand are drinking fluoridated water, and city authorities covering another 800,000 have decided to fluoridate. Approximately 40 per cent of the population are, or soon will be, drinking fluoridated water.

"In addition, . . . infant welfare nurses have adopted a policy of instructing pregnant young women in the use of fluoride tablets for themselves and their children in order to reach those not already taking fluoridated water. There is evidence that the preventive work is producing some

results. Children enter the school dental service at five years of age and average decayed teeth per child on entry have fallen in the period 1940-60 from 8.5 to 6.1. The next decade should show a much greater rate of improvement," Sir John remarked.

Periodontists to Meet in Portland

The annual meeting of the Western Society of Periodontology will be held August 8-10 at the Portland Sheraton Hotel, Portland, Oregon. G. Parfitt of the University of British Columbia will be among the guest clinicians. The program will include sessions on periodontal surgery, occlusion, partial dentures and periodontal prosthesis.

Canadian dentists are invited to attend and may obtain further information by writing to the Western Society of Periodontology — Portland, c/o the Portland Sheraton Hotel, Portland, Oregon.

French Stomatology Congress in October

Canadian dentists have been invited to attend the 19th French Stomatological Congress this October. Scientific sessions are slated for October 11-12 and October 15-16 at the Eastman Institute in Paris. A special session is also scheduled at Lille October 14 to commemorate the inauguration of a new stomatological institute at the Faculty of Medicine and Pharmacy, Université de Lille.

For further information please write to Secrétariat du Congrès de Stomatologie, 47 boulevard de l'Hôpital, Paris 13^e, France.

North-East Orthodontists to Meet in Montreal Oct. 24-26

Orthodontists from eastern Canada and eastern United States will meet in Montreal October 24-26 for the 44th annual meeting of the Northeastern Society of Orthodontists. Scientific sessions will be held at the Sheraton-Mount Royal Hotel.

Mexican Congress Registration Forms Available

Canadian dentists who wish to attend the Mexican International Dental Congress in Mexico City November 4-18 may secure advance registration forms from Canadian Dental Association headquarters. Preliminary details of the meeting were published on p.403 of the June Journal.

Canadians Invited to Chile

Canadian dentists have been invited to attend the Fifth International Dental Congress of the Odontological Society of Chile at Santiago, November 28 to December 4. The program embraces scientific sessions on a wide range of topics, sessions devoted to dental public health, and organizational aspects of the dental profession, including legal defence of the dentist. Canadians who wish to participate in the conference program will be welcomed. Further information may be obtained by writing to J. Pequeño, San Antonio 510 of. 504, Santiago, Chile.

Jamaica Meeting in February '66

Canadian dentists have been invited to attend the next national convention of the Jamaica Dental Association February 20-24, 1966. This meeting will be held in Kingston, Jamaica. For further information please write to C. W. Meeks, P.O. Box 19, Kingston 5, Jamaica.

ARPA Meeting in West Berlin, May, 1966

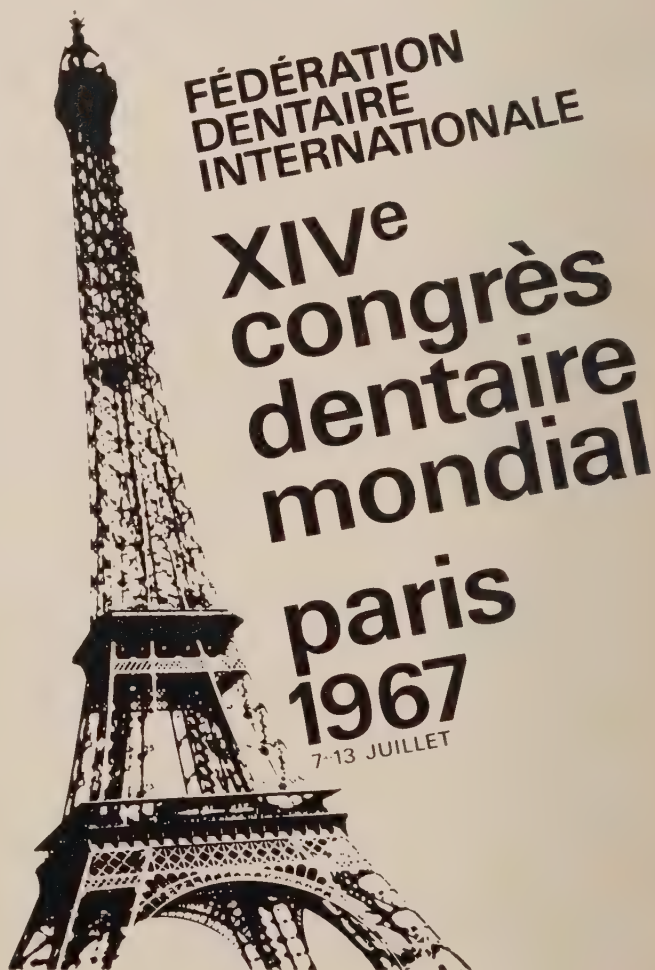
Program details have been announced for the 18th ARPA Internationale meeting at the Kongress Haus in West Berlin, May 22-26, 1966. (ARPA is an international association for periodontal research.) Scientific sessions will feature a discussion on the epidemiology of periodontal diseases; a panel on "Failures in the Treatment of Periodontal Diseases;" lectures on new surgical techniques, including grafts, displacement of mucosal flaps, vestibular surgery and replantation; three

reports on juvenile periodontal diseases; short free lectures; scientific exhibits and scientific films. Simultaneous translation will be provided. Further information can be obtained by writing to Professor A.-J. Held, 30 rue Lombard, Geneva, Switzerland.

'67 World Congress in Paris

At least 10,000 dentists from all over the world are expected to attend the 14th World Dental Congress of the Fédération Dentaire Internationale to be held in Paris July 7-13, 1967. Principal scientific topics are dental research, oral surgery, operative dentistry, orthodontics and paedodontics, and prosthodontics. A large commercial exhibit will show the latest in dental equipment and supplies. A varied social program is also being organized.

Canadian dentists who plan to visit Paris at that time are advised to make early reservations for hotel accommodation during the second week of July 1967.



Further information may be obtained from Jacques Charon, secretary general of the 14th World Congress, 12 rue du 4 Septembre, Paris 2^e, France, or from G. H. Leatherman, secretary general, Fédération Dentaire Internationale, 35 Devonshire Place, London W.1, England.

Dental Organizations

Folkins is President of Vancouver Society

J. A. Folkins was recently installed as president of the Vancouver and District Dental Society. He succeeds B. M. Plumb. Other officers of the dental group are S. R. Moscovich, president-elect; J. C. Martin, secretary; and D. A. Sinclair, treasurer. T. A. Cacchioni, E. I. Slakov, A. A. Fraser and E. Y. Minato were named as directors.

Following the custom of the Vancouver and District Dental Society to hear a non-dental speaker at its closing meeting, Willard Ireland, provincial archivist, addressed the members. Mr. Ireland spoke on the history of British Columbia.

Elect Dr. Clarke as President of Alberta Assn.

G. V. T. Clarke of Edmonton was recently elected president of the Alberta Dental Association. Dr. Clarke succeeds M. J. Lipkind of Calgary. Also elected to the Board of Directors were R. A. Gray of Medicine Hat, vice-president; Stuart Fleming of Red Deer, A. H. Lane of Edmonton, L. G. Mandin of St. Paul and A. D. Sparrow of Calgary—all directors of the association. G. E. Decker of Edmonton is registrar-secretary-treasurer. H. R. MacLean is the representative of the Alberta Dental Association to the Board of Governors of the Canadian Dental Association.

Saik Elected President at Calgary

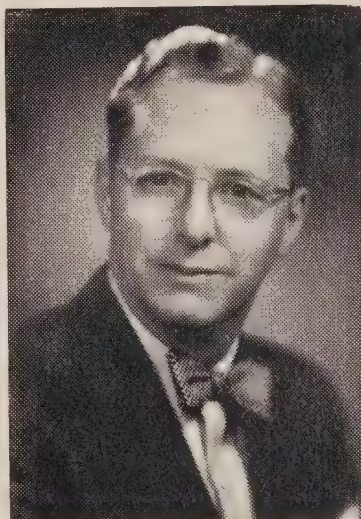
At a recent meeting of the Calgary and District Dental Society B. G. Saik was

elected president for 1965-66. He succeeds A. G. Kluzak. Other officers named were: E. W. P. Luxford, vice-president; D. M. Kovitz, secretary; and G. K. Minty, treasurer.

Donald Gordon, well known C.B.C. commentator and foreign correspondent, was the main speaker at the meeting. Mr. Gordon's topic was "That Distorting Mirror—The Public Image of Dentistry." He gave many helpful suggestions to aid the dental profession in getting its message across to the public.

Gordon McVety also spoke and presented an analysis of the Canada Pension Plan.

Dr. Boyes is President of Ontario Assn.



M. G. Boyes

M. G. Boyes of Toronto was installed as president at the 98th annual convention of the Ontario Dental Association in Toronto May 16 - 19. He succeeds E. E. Johns of Kingston. J. B. Taylor of London was named president-elect.

Other newly elected members of the O.D.A. Board of Governors are F. H. Shepherd of Toronto, archivist-historian; H. N. Beach of Ottawa representing District 1; J. H. Moyle of Brantford representing District 5; W. A. Burgman of Preston representing District 6; and A. R. Kaukinen of Sudbury representing District 7. Continuing board members are G. F. Rogers of Huntsville, District 2; J. A. Sherman and W. J. Spence of Toronto, District 3; G. K. Chapman of Fort

Erie, District 4; and S. P. Smith of Port Arthur, District 8.

K. W. Davey of Toronto is chairman of the Dental Public Health Committee. R. S. Woollatt of Toronto is chairman of the Benevolence Committee. Re-appointed as secretary-treasurer and editor respectively were Mrs. W. C. Durham and A. W. Lindsay, both of Toronto.

Academy of Restorative Dentistry Meets in Montreal

The Canadian Academy of Restorative Dentistry held a one-day scientific meeting in Montreal May 29. The following papers were presented during the morning session held at the Université de Montréal: "The Pin Inlay," R. T. Lamb, Montreal; "Aesthetics with Porcelain," S. Katz, Winnipeg; "Aesthetic Anterior Gold Restorations," G. A. Brass, Winnipeg; and "A Review of the Literature on Restorative Dentistry for 1964-65," D. B. McAdam, Toronto. The following papers were given at the afternoon session held at McGill University: "Porcelain Jacket Crown—Preparation Using a Rubber Dam," A. F. Cameron, Montreal; "Use of Acrylic Resin in the Restoration of Class III Cavities," D. C. Gordon, Montreal; "Class V Gold Foil Harmonious Outline," G.-H. Deschênes, Montreal; and "The Pin Inlay," R. T. Lamb, Montreal.

Mount Royal Dentists Install Dr. Zacharin

David Zacharin



David Zacharin was installed as president of the Mount Royal Dental Society at the society's 44th annual installation dinner

in Montreal May 18. He succeeds L. L. Druckman. Other officers of the society are H. L. Levitt, vice-president; Benjamin Sedlezky, secretary; Melvyn Shevell, treasurer; and Michel Capelle, assistant secretary.

Levitt is President of Montreal Alpha Omega

H. L. Levitt was elected president at a recent meeting of the Montreal Alumni Chapter of the Alpha Omega Fraternity. He succeeds M. Gornitsky. Other officers elected with Dr. Levitt were: M. Capelle, vice-president; E. Slapcoff, corresponding secretary; E. A. Fellows, recording secretary; A. S. Wainberg, treasurer; C. L. Herscovitch, historian; M. H. Wechsler, librarian; I. Margolese, editor and publicity chairman; M. P. Tenenbaum, associate editor; and M. M. Dines, sergeant at arms. Trustees are L. L. Druckman, G. Silver, A. Leith and R. M. Wiener.

Royal Canadian Dental Corps

Brig. Baird at Quebec

Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces was in Quebec City, May 25 - 29, 1965, to participate in the annual meeting of the Board of Governors of the Canadian Dental Association.

Four Officers Take Release

On May 31, 1965, on completion of five years of service with the Royal Canadian Dental Corps, the following dental officers took their release: Capt. W. T. H. Harley of Camp Sarcee, Calgary, Alberta; Capt. J. G. B. Parent, R.C.A.F. Station, Goose Bay, Labrador; Capt. A. B. Perkin, Royal Military College, Kingston, Ontario; and Capt. J. Vincent, Headquarters Quebec Command, Montreal.

Middle East Rotation

Maj. J. C. R. Roy, Montreal, has been posted as replacement for **Maj. T. C. Gaudet** who recently returned to Canada after serving a one year tour as Officer-in-Charge of the Dental Detachment, Canadian Base Units, United Nations Emergency Force, Middle East. Maj. Gaudet will be employed in No. 13 Dental Company, R.C.A.F. Station, Trenton, Ontario.

Economics

Children Get Inadequate Dental Care, Says Hall Commissioner

"The children of Canada do not receive adequate dental care," C. L. Strachan of London told the Ontario Dental Association's 98th annual convention on May 17. Dr. Strachan, who was a member of the (Hall) Royal Commission on Health Services, warned his audience "not to introduce the old chestnut of need versus demand" because in the case of children the two were practically identical.

Dr. Strachan explained that the Royal Commission learned and was deeply impressed by three facts: (1) there are too few dentists; (2) existing dentists are too busy; and (3) Canadian children do not get enough dental care.

The ratio of dentists to population is sufficiently poor to be alarming throughout Canada, he said. Children are not being cared for adequately even in London, where the dentist-population ratio is as favourable as anywhere in Canada and where the school dental treatment service is second to none.

Dr. Strachan conceded that more children are being treated by more dentists, but claimed that new techniques have increased the cost of child dental care and made it more prohibitive to more people.

Turning to the Royal Commission's proposals regarding dental auxiliaries, Dr. Strachan stressed that he was speaking as a commissioner and was not expressing a personal view on the advisability of such auxiliaries.

He then asked: "Could the Royal Com-

mission ignore the fact that New Zealand dental nurses have proven their worth in that country? . . . Could the training and accomplishments of similar personnel in Britain be ignored by the Commission? . . . Have we really accepted dental hygienists?"

"While figures are offered regarding the potential of these workers [dental hygienists], there is no proof that sufficient practitioners desire to practise this way," he said.

Dr. Strachan urged dentists to take a hard look at their profession. "Let us not take ourselves too seriously or even delude ourselves that we stand in the front of the health line."

Dentists are important reinforcements but only a small number of all health personnel, he said. Dental training is expensive but students only make token payment for their education, he observed. "If public funds aided us, then the public has a right to expect something in return. We are not granted the right and privilege to practise our chosen profession solely for our own aggrandizement or personal enrichment. If and when we fail to discharge that obligation as a profession, then governments hold the power and the right to decree what shall be done," Dr. Strachan said.

Commercial Dental Insurance Progresses Slowly in Canada

Insurance coverage for dental care is not at all widespread in Canada, reports the C.D.A. Bureau of Economic Research. Due to its high cost, a rapid development of this type of coverage is not anticipated. Some 14 companies are offering dental insurance but two of them do so on an experimental basis only. Frequently, dental insurance is written only in conjunction with other life or health coverage underwritten by the same company.

Ontario Medicare Bill Passed

Insurance to cover medical care costs will become available to all Ontario residents after June 1, 1966 under a bill passed in the provincial legislature on May 22. The

proposed Ontario Medical Services Insurance Act provides for a voluntary plan under which the provincial government will pay the full premium on a standard insurance policy for persons with no taxable income and part of the premium on a sliding scale for those with up to \$1,000 taxable income. The government will become the insurer for policies on which it pays full or partial premiums. The Act will be administered by a nine man council on which five members represent the public, two the physicians and two the insurance carriers.

The plan, which basically follows a scheme proposed last year by a government-appointed committee headed by J. G. Hagey, is less wide-ranging than that proposed by the federal Royal Commission on Health Services.

Health Minister Matthew Dymond estimated the first year's cost of operation at \$70 million. He said 1,800,000 persons—one-quarter of Ontario's population—would be eligible for partial or wholly subsidized assistance. They would be obliged to show income tax slips and buy a standard policy from the government. A new division of the health department—to be called the Medical Services Division—would be set up for this. All other persons could buy medical insurance from any plan—profit or non-profit—but the government would set a maximum premium that any plan could charge. The government will determine this maximum upon advice of the advisory council to be set up under the bill.

Standard contracts will embrace medical, surgical and obstetrical services at home, in the office or in hospital. These contracts will provide first dollar coverage. All others can have provision for deductibles.

Under this scheme, physicians will continue to set their own fees. Patients will have a free choice of physician.

B. C. Medical Care Plan Passed

An act providing medical care for persons in need was recently passed by the British Columbia Legislature. Prior to this, the British Columbia College of Dental Sur-

geons had made representation to the government that if services were included which could be legally performed by a physician or dentist, all practitioners who are academically and legally competent to provide these services should be eligible to provide such services and should be remunerated from public funds.

Saskatchewan May Recruit Dentists from Other Provinces

Saskatchewan's European search for skilled labour has not met with much success, *The Financial Post* reported recently. The provincial government is now said to be interested in attracting workers from eastern Canada and the United States, particularly the midwest. According to Premier Ross Thatcher, such a program would likely be aimed at dentists, nurses, teachers and engineers—all in very short supply in his province. Only 40 persons have arrived in Saskatchewan since January 1 as a result of the province's recruiting program in London. They came from Britain and were mainly professional people: physicians, dentists and nurses. High employment rates make it difficult to attract skilled persons to Canada, Mr. Thatcher observed. Saskatchewan's London representative is expected to go to Germany to recruit, but the premier says he is not too hopeful of success.

Oregon to Continue Service Corp.

The Oregon State Dental Association on April 4 voted overwhelmingly to continue the Oregon Dental Health Foundation. A motion to discontinue this dental service corporation was introduced at the society's 1964 annual meeting and tabled until it was defeated at this year's meeting.

Dentist Named as Medical Service Corp. Trustee

From Chicago comes word that a dentist was recently elected to the Board of Trus-

tees of the Illinois Medical Service Corporation. He is O. K. Johnson, clinical instructor in oral and maxillofacial surgery at the University of Illinois College of Dentistry in Chicago.

the various agencies responsible for public water supply installation and to pass laws which would make fluoridation compulsory. The council noted that the "dental problem in Latin America takes on dramatic proportions."

Fluoridation

Fluoridation Re-Endorsed by C.D.A.

The Canadian Dental Association's Board of Governors have reiterated the Association's long-standing approval of water fluoridation for prevention of tooth decay. A resolution to this effect was passed at the national convention in Quebec City.

The C.D.A. Council on Research, in recommending approval, again reported that fluoridation is safe, economical, and effective in reducing tooth decay by about two-thirds. It urged all communities with public water supplies to adjust the fluoride content of their water to 1 part per million parts of water.

The C.D.A. first endorsed fluoridation in 1953 and has repeated its approval annually.

Canada now has 4,050,100 people living in areas with fluoridated water. Twenty-nine communities were added to the list in 1964. Sixty-three per cent of Canadians using fluoridated water live in Ontario. Fifty-eight per cent of Manitobans use fluoridated water. Thirty-nine per cent of Ontarians use fluoridated water. Thirty-two per cent of Americans use fluoridated water versus 21 per cent of Canadians. Of 29 known plebiscites in Canada in 1964, 14 approved fluoridation.

Pan American Health Organization Acts on Fluoridation

The directing council of the Pan American Health Organization at a recent session in Mexico City adopted a resolution urging 21 nations in Central and South America to intensify their efforts to spread the use of water fluoridation. The council called on public health ministries in these countries to deal directly with

Connecticut Approves Fluoridation Law

Connecticut became the first state in the United States to approve a state-wide fluoridation law when Governor John N. Dempsey on May 28 signed a bill which requires fluoridation of water supplies in all communities with 20,000 or more population. The state Public Health Council had previously issued a similar regulation which had the effect of law. However, state legislators indicated that they wished to act on the matter. The bill received overwhelming approval in both houses of the legislature. Under the new law, all communities in the 20,000 to 50,000 class with fluoride-deficient water will be required to initiate fluoridation by October 1, 1967 while communities over 50,000 will be required to begin by January 1, 1967.

Fluorides Cut Dental Care Costs in Half

The cost of dental care for children in a fluoridated community is less than half the cost in a non-fluoridated community, according to a new study. D. B. Ast, director of the Division of Special Health Services of the New York State Department of Health, said the study showed that "for initial care the cost was more than twice as much in the non-fluoridated area." Addressing the recent 16th National Dental Health Conference sponsored by the American Dental Association Council on Dental Health, Dr. Ast reported on a study of costs for dental treatment comparing two cities in New York—Newburgh and Kingston. Newburgh began fluoridating its water supply in 1945; Kingston's water is deficient of fluorides. Preliminary results from the first two years of a six year study of five and six year olds in each city showed that 41 per cent of the children in Newburgh required no dental treatment at

all, while only 15.5 per cent of the Kingston children required no care. "In addition, those children in Kingston who were in need of treatment required, on the average, more than twice as many services per child (5.4) as did the children treated in Newburgh (2.3)," Dr. Ast said. Dr. Ast stated that the most important improvement in each group of children was in the reduction in number of services needed during follow-up treatment. In Newburgh, the services declined to an average of 0.8 per child and in Kingston they decreased to 1.8.

Research

Quebec Offers Research Grants

The Quebec Ministry of Health has announced three categories of research grants to be awarded on the recommendation of the provincial Medical Research Council.

Graduates in research training undertaking independent research can get a one year non-renewable grant for not more than \$10,000.

Grants ranging from \$3,300 to \$4,500 a year are available to medical, dental and pharmacy students during internship or after university graduation, who want to spend a year in research in fundamental science departments outside a hospital.

Students who want to interrupt their undergraduate studies in medicine, dentistry or pharmacy and devote a year to research in university or other fundamental science laboratories can get \$200 a month for an academic year of nine months after the equivalent of a first year of university studies, and \$225 a month after the second year.

Dr. Poplove Resumes Practice

Myron Poplove has recently relinquished his full-time position in the federal Department of National Health and Welfare as consultant in dental public health research. Dr. Poplove will henceforth divide his time between private practice of

periodontics in Ottawa, the conduct of research projects, and consultative work. He will continue his association with the Department of National Health and Welfare as research consultant.

Awards and Honours

G. T. Mitton, who retired on June 30 as professor and head of the Department of Dental Public Health at the University of Toronto, has been awarded an honorary life membership by the Ontario Chapter of the Canadian Society of Dentistry for Children.

J. H. Johnson, a past president of the Ontario Dental Association, was presented with a painting of himself by the association at its convention in Toronto on May 17. Dr. Johnson retired last year as professor of oral surgery at the University of Toronto where he had taught for 30 years.

Don W. Gullett, who retired on December 31, 1964 as secretary of the Canadian Dental Association, was awarded an honorary life membership by the Ontario Dental Association at its convention in Toronto on May 19.

Paul Geoffrion, former dean of the Faculty of Dental Surgery, Université de Montréal, became the 27th honorary life member of the Canadian Dental Association at its national convention in Quebec City on May 31.

Winner of the first prize in the 1965 Canadian Dental Association War Memorial Award Essay Competition was **D. C. Chin** of McGill University, Montreal. Second prize went to **A. E. Dempster** of the University of Toronto.

Gerald Franklin of Montreal was elected president of the Northeastern Society of Orthodontists at the Society's 43rd annual meeting in New York City, February 28 to March 2.

Le Dr Christie devient président de l'A.D.C.

C'est à Québec que se réunissaient, le 31 mai, les dentistes canadiens et étrangers qui assistaient au 64ème Congrès annuel de l'Association dentaire canadienne.

Un programme scientifique de grande envergure traitait de toutes les phases de la chirurgie dentaire. Colloques, conférences, cliniques, cliniques de table, films, exhibits techniques et scientifiques exposaient les développements les plus récents de la profession.

La réunion annuelle du Conseil des Gouverneurs s'est tenue du 26 au 29 mai, soit avant le congrès. Les membres du Conseil ont étudié les problèmes de santé dentaire de portée nationale et ont établi les politiques de l'Association dentaire canadienne pour l'année qui vient.

C'est au déjeuner du 31 mai, sous la présidence de G. M. Dewis, un ancien président de Halifax, que le docteur P. S. Christie également de Halifax, est devenu le 45ème président de l'Association dentaire canadienne. Il succède à Rémy Langlois, président sortant de charge.

Natif de Halifax, le docteur Christie obtint le diplôme universitaire D.D.S. de Dalhousie en 1939. Membre du Corps dentaire canadien de 1939 à 1943, il travailla au Canada et outre-mer. Il exerce à Halifax depuis 1944. Professeur d'orthodontie à l'Université Dalhousie, ancien président de la Halifax County Dental Society et de l'Association dentaire de la Nouvelle-Ecosse, le docteur Christie fait partie du Conseil des Gouverneurs de l'Association dentaire canadienne depuis 1958 et du Conseil Exécutif depuis 1960. Il est Fellow du Collège international des dentistes.

J. P. Coupland d'Ottawa a été choisi comme prochain président de l'Association. Membre du Conseil Exécutif, le docteur Coupland a aussi été membre du Conseil des Gouverneurs de l'A.D.C. à titre de représentant du Collège royal des chirurgiens dentistes de l'Ontario.

Les nouveaux membres du Conseil Exécutif sont: W. P. Munsie de Vancouver, J. M. Chamard de Montréal, W. G. Bruce de Kincardine, Ontario et H. R. MacLean d'Edmonton.

Les présidents élus aux divers conseils et comités sont: P. S. Christie de Halifax, à l'Exécutif; H. M. Cline de Vancouver, au Conseil de la constitution et des règlements; James McCutcheon de Montréal, au Conseil de l'enseignement; J. P. McGuigan de Halifax, au Conseil sur l'éthique professionnelle; J. D. Purves de Toronto, au Conseil du journalisme; A. H. Crowson d'Ottawa, au Conseil de législation; A. R. S. Gray de Calgary, au Conseil d'hygiène publique; K. J. Paynter de Toronto, au Conseil des recherches; G. C. Swann de Calgary, au Comité des services auxiliaires; W. B. Coleman de Halifax, au Comité du congrès de 1966; R. A. Clappison de Toronto, au Comité des services dentaires; H. W. Reid de Toronto, au Comité de l'immeuble du secrétariat; D. M. Wallace d'Agincourt, Ontario, au Comité des services hospitaliers; F. H. Compton de Toronto, au Comité de nécrologie; J. P. Coupland d'Ottawa, au Comité des nominations; M. A. Rogers de Montréal, au Comité des spécialistes et de la spécialisation et Louis Lépine de Montréal, au Comité du concours du mémorial de guerre.

Le docteur Paul Geoffrion, ancien doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, a été nommé membre honoraire de l'Association.

Les représentants officiels et étrangers étaient: F. A. Pierson, président de l'Association dentaire américaine; L. M. Ennis, président du Collège international des dentistes et Claude Wright de l'Association dentaire de la Jamaïque.

Les dentistes de la ville de Québec, sous la direction de Louis Bernier, président du Congrès, ont vu à l'organisation matérielle du congrès.

Délibérations du Conseil des Gouverneurs

A la séance d'ouverture, les membres du Conseil des Gouverneurs et l'assistance

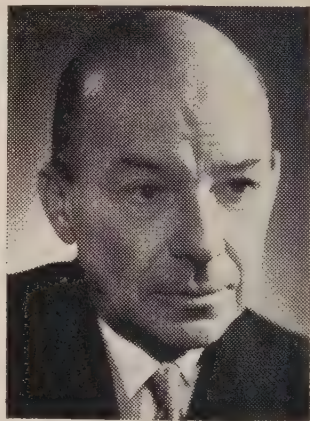
ont gardé une minute de silence en souvenir des membres décédés.

Après avoir examiné les rapports soumis par chacun des bureaux, comités et commissions, le Conseil a pris les décisions suivantes:

Il adopte la déclaration de l'Association dentaire canadienne au sujet des recommandations de la Commission royale d'enquête sur les services de santé, déclaration qui sera transmise au Ministre de la Santé nationale et du bien-être social;

Il reconnaît la prothèse et la pédodontie comme spécialités dentaires et reconnaît l'Académie canadienne de prothèse comme section de l'Association dentaire canadienne;

Il approuve les amendements à la constitution de la section d'orthodontie de l'A.D.C.;



Paul Geoffrion

P. S. Christie, Président de l'Association dentaire canadienne.



Le Conseil des Gouverneurs étudie un agenda très chargé, à Québec.

Il approuve les nouveaux termes de référence pour le Conseil de législation;

Il amende la constitution et les règlements pour clarifier les articles relatifs aux nominations intérimaires;

Il demande que le Conseil de la constitution et des règlements étudie plus à fond la demande de l'Association dentaire du Yukon qui désire devenir membre corporatif de l'A.D.C.;

Il adopte un budget de \$332,000 pour l'année 1966.

EDUCATION

Le Conseil demande au Bureau national d'examen dentaire du Canada de ne pas divulguer les résultats des examens du BNED avant que les candidats aient reçu les diplômes de leurs facultés respectives;

Il recommande que le Conseil d'enseignement établisse un programme d'épreuves d'aptitude pour les candidats aux facultés dentaires canadiennes;

Il recommande que chaque membre corporatif prépare un plan complet visant à intégrer le personnel auxiliaire dans l'ensemble de l'équipe de santé dentaire. Chacun de ces plans serait soumis au Comité du personnel auxiliaire qui ferait rapport au Conseil des Gouverneurs à sa séance annuelle de 1966;

Il recommande que l'on fasse des études plus approfondies sur les problèmes que

présente le personnel auxiliaire avant de mettre en vigueur des propositions telles que celles que contient le Rapport de la Commission royale d'enquête sur les services de santé;

Il recommande que les facultés dentaires des universités fassent des études sur les hygiénistes dentaires de façon à déterminer le temps requis à la formation du personnel, son rendement, et les résultats que peut donner son intégration à l'équipe dentaire;

Il endosse le programme national de certificats pour les assistantes dentaires;

Il approuve en principe un programme d'entraînement et de certificats pour techniciens dentaires;

Il étudie la possibilité d'établir un système d'accréditation des laboratoires dentaires.

SYSTEME DE VALEUR RELATIVE POUR LES HONORAIRES

Le Conseil approuve un plan sur la méthode d'évaluation relative des honoraires, tel que l'a révisé le Comité des services dentaires;

Il approuve des modifications dans la liste de référence des services dentaires de l'A.D.C.;

Il note l'opposition au principe d'honoraires pro rata;

Il prend connaissance d'un rapport sur les activités d'une infirmière dentaire de la Nouvelle Zélande employée dans la région de Whitehorse du Territoire du Yukon.

JOURNAL

Le Conseil adopte les principes d'une politique éditoriale et donne son accord au nouveau mode de préparation de la partie française du *Journal de l'Association dentaire canadienne*;

Il adopte une politique visant à régler l'usage de déclarations de l'Association dentaire américaine de même que de ses sceaux d'acceptation, dans la publicité de produits dentaires aussi bien auprès des professionnels qu'auprès du public;

Il délègue D.L. Rife de Toronto et Henri Hamel de Québec pour représenter l'A.D.C. à la deuxième Conférence canadienne sur l'enfant, qui se tiendra cette année à Québec;

Il réitère son appui de la fluoration des eaux de consommation;

Il recommande la révision de la brochure de l'A.D.C. sur les services dentaires hospitaliers;

Il recommande que le Comité des services hospitaliers et le Conseil d'enseignement forment un comité en vue de formuler une politique à l'égard de l'inspection et de l'évaluation des programmes d'enseignement dentaire dans les hôpitaux;

Il enjoint tous les membres corporatifs d'établir des comités de services dentaires hospitaliers;

Il demande de continuer, à un moment propice, les négociations entreprises avec le Ministère du Revenu national dans le but d'augmenter les déductions de taxes permises aux dentistes;

Il demande au Comité des spécialistes et de la spécialisation de reviser la définition du terme 'spécialiste' en regard des besoins contemporains;

Il demande au Conseil Exécutif d'étudier les moyens à prendre pour aider davantage le Bureau d'information publique;

Il recommande que le Conseil Exécutif établisse une politique à l'égard des firmes qui exposent leurs produits aux congrès nationaux et à l'égard des entreprises commerciales qui offrent leur assistance financière aux congrès;

Il demande que les rapports destinés à la réunion annuelle du Conseil des Gouverneurs soient soumis plus longtemps à l'avance afin de permettre aux membres corporatifs de les étudier d'une façon plus approfondie;

Il donne son assentiment à la résolution du Conseil Exécutif datée du 23 septembre 1964. Cette résolution confirme, pour une période de cinq ans, la firme Professional and Industrial Pensions Limited dans ses fonctions d'administrateur des plans d'assurance et de retraite qu'approuve l'A.D.C.;

Il donne son assentiment à la dissolution du Comité du concours du mémorial de guerre, en recommandant que ses fonc-

Le secrétaire de l'A.D.C., W. G. McIntosh résout un problème difficile, à la satisfaction de tous.





Le discours présidentiel du Dr Rémy Langlois, président-sortant-de-charge.

tions soient assumées par le Conseil d'enseignement;

Il reçoit un rapport du Fonds canadien pour l'enseignement dentaire;

Il félicite le président G. E. Hall d'avoir établi une nouvelle faculté dentaire à l'Université de Western Ontario.

Délibérations du Conseil Exécutif

Le Conseil Exécutif a fait les recommandations suivantes:

La dissolution du Comité du concours du mémorial de guerre à la suite de la réunion annuelle de 1966. Le Conseil d'enseignement en assumera les responsabilités dans des conditions qu'il déterminera lui-même, sujet à l'approbation du Conseil des Gouverneurs;

La nomination de Georges Pelletier, de Montréal, comme adjoint au rédacteur et l'adoption de nouvelles conventions relatives à l'apport français au *Journal de l'Association dentaire canadienne* sont approuvées;

Le Conseil révoque la proposition adoptée à la réunion du 15 au 18 février. Cette proposition retardait l'étude des demandes de reconnaissance de nouvelles spécialités;

Les nominations des docteurs R.G. Ellis de Toronto, comme président du Congrès de 1967, et Roger Charette de Montréal, comme président du Congrès de 1969 sont confirmées.

Il a aussi été question des prochaines réunions annuelles et des congrès nationaux de l'A.D.C., de la protection légale du dentiste, des plans d'assurance médicale et d'hospitalisation pour les dentistes de l'Ontario.

On a annoncé la constitution de deux nouveaux comités dentaires consultatifs au Ministère de la Santé nationale et du bien-être social, on a approuvé le projet de rencontre entre le Conseil Exécutif de l'Association dentaire canadienne et celui de l'Association dentaire américaine.

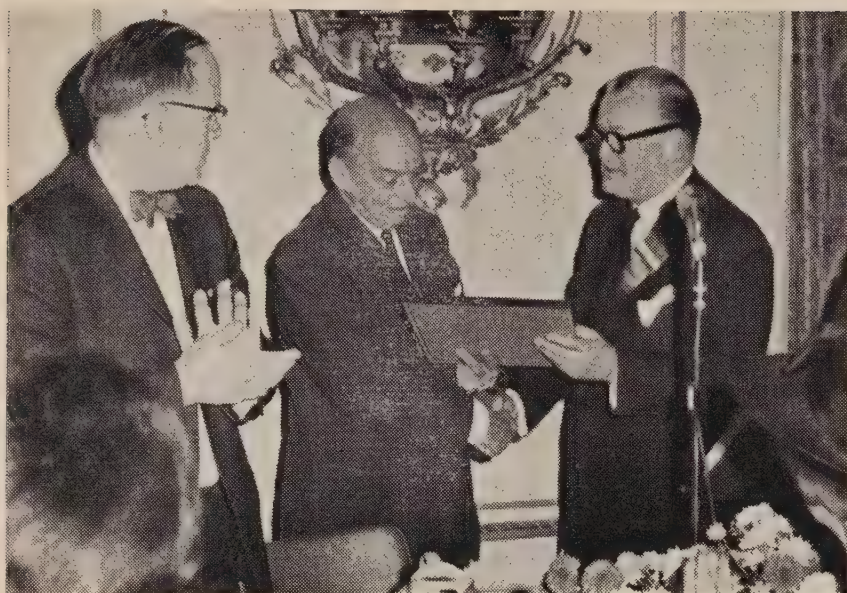
On recommande que l'Association dentaire canadienne s'abstienne d'organiser des voyages outre-mer.

Le discours du président

Dans son discours présidentiel du 31 mai, le docteur Rémy Langlois affirme que l'item le plus intéressant de la réunion du Conseil des Gouverneurs a sans doute été l'étude de la réponse de l'A.D.C. à la Commission royale d'enquête sur les services de santé. Il fait l'éloge du comité de direction de l'A.D.C. pour la façon dont il a préparé cette réponse. "Notre réplique a une portée nationale et reçoit une approbation unanime. Elle sera publiée et transmise à tous les dentistes du Canada, ainsi qu'au Ministre de la Santé nationale et du bien-être social."

Le président Langlois remercie le docteur Gérard DeMontigny, ancien rédacteur français du *Journal de l'Association dentaire canadienne*, pour son dévouement au service du Journal et de la profession durant de nombreuses années. Il félicite le docteur Georges Pelletier de Montréal qui devient le nouvel adjoint au rédacteur.

Le docteur Langlois annonce ensuite les noms des gagnants du Concours du mémorial de guerre de 1965: D.C. Chin de Montréal et A.E. Dempster de Toronto.



Le Dr Paul Geoffrion de Montréal (centre) reçoit son certificat de membre honoraire.

Il conclut en faisant appel à la bonne volonté et à la coopération de chacun pour qu'un esprit d'unité continue d'exister dans la profession.

Aperçu du Congrès national

Le Congrès débutait dimanche soir 30 mai, par une très agréable soirée dans le style Bal Musette français.

Lundi matin, le docteur H.I. Margolis de Boston, présentait la conférence annuelle du Memorial George Wellington Grieve. Le programme de l'avant-midi était complété par un groupe de cliniciens dont voici les noms: A.F. Lindquist de Kansas City (fissure palatine chez les enfants); Paul Rondeau de Vancouver (anesthésie générale); M.A. Rogers de Montréal (anesthésie locale); L.E. Francis de Montréal (pharmacologie) et Imre Donath de Montréal (endodontie).

Le Dr Rémy Langlois, président sortant de charge, prononçait l'allocution d'usage au déjeuner de l'Association dentaire canadienne.

Les cliniciens de l'après-midi étaient: John Vincelli de Montréal (gnathologie); Henryk Silbert de Montréal (endodontie); R.H. Johnson de Montréal (diagnostic buccal); Roland Baribeau de Trois-Rivières (prothèse); Zdenek Mézl de Montréal (pathologie) et J.G. Dale de Toronto (périodontie).

Un colloque très apprécié complétait le

programme de l'après-midi. Les docteurs R.A. Clappison, R.C. Freeman et W.W. Pressey, tous de Toronto, ont discuté d'une méthode servant à déterminer les honoraires au moyen d'un système de valeurs relatives.

Le conférencier principal, mardi matin, était A.J. DePietro de Philadelphie. Le docteur DePietro traitait des problèmes de l'occlusion. Les autres cliniciens ce matin-là étaient Georges Pelletier (périodontie),



Un plateau d'argent est offert au Dr Rémy Langlois, président-sortant-de-charge.

NOUVEL ADJOINT AU RÉDACTEUR

Le 1er juin, le Dr Georges Pelletier de Montréal a été nommé adjoint au rédacteur. Il s'occupera de l'apport français au Journal de l'Association dentaire canadienne. Il succède au Dr Gérard DeMontigny qui a donné sa démission en septembre 1964. Après avoir obtenu son diplôme universitaire D.D.S. à l'Université de Montréal en 1951, le docteur Pelletier est allé poursuivre des études post-graduées en périodontie au New York University College of Dentistry. Depuis, le docteur Pelletier a été clinicien, assistant professeur, puis chargé de l'enseignement de la périodontie à l'Université de Montréal. Il consacre maintenant tout son temps à l'exercice de sa profession.



W. B. Donohue (chirurgie buccale), Harry Rosen (dentisterie opératoire), Donald Kepron (prothèse), et G.H.G. Weinlander (pédodontie), tous de Montréal, ainsi que R.A. Rocke de Westville, Indiana, qui présentait un exposé sur l'orthodontie.

Les séances de mardi après-midi commencèrent avec des cliniques présentées par A.J. DePietro (occlusion); Yves Dufresne de Trois-Rivières (esthétique en chirurgie dentaire); Jacques Fiset de Montréal (prothèse); H.I. Margolis (orthodontie) et Anders Bennick de Toronto (orthodontie).

Au colloque de l'A.D.C. en fin d'après-midi, on discuta du rapport de la Commission royale d'enquête sur les services de santé. Participaient de façon très vivante et très intéressante, monsieur Jean Marchand, ancien président de la Confédération des syndicats nationaux, le docteur J.M. Chamard, praticien de Montréal, membre du Conseil Exécutif de l'A.D.C. ainsi que le docteur J.-P. Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal.

Le programme de mercredi matin: E.R. Ambrose de Montréal (dentisterie opératoire); Yves Dufresne (esthétique en

chirurgie dentaire); R.A. Rocke de Westville, Indiana (orthodontie); Claude Mardore de Montréal (stérilisation) et A.J. DePietro (occlusion). Il y avait aussi plusieurs cliniques de table sur l'orthodontie, la prothèse, la dentisterie opératoire, les couronnes et ponts, la pédodontie, l'administration d'un cabinet dentaire, l'endodontie, la photographie en art dentaire, la radiologie, la périodontie, l'hygiène publique et l'hygiène dentaire.

Le mercredi après-midi était consacré à un troisième colloque durant lequel douze cliniciens du congrès répondaient aux questions de l'assistance.

Au déjeuner de mardi, offert par le Collège des chirurgiens dentistes de la province de Québec, les congressistes avaient le privilège d'entendre le docteur J.B. Macdonald, président de l'Université de la Colombie britannique. Le mercredi midi, ils étaient les invités de l'Association dentaire de la province de Québec.

Le Congrès s'est terminé mercredi soir par un dîner offert par le gouvernement de la province de Québec. Le conférencier d'honneur était l'Hon. Alphonse Couturier, Ministre de la Santé du Québec. Enfin, le bal du président de l'A.D.C. marqua la fin officielle du congrès.

Profitez du plan d'épargne-retraite de l'Association dentaire canadienne pour parer à l'inflation et pour vous créer un fonds garanti de pension. Vos cotisations, déductibles de l'impôt, peuvent, à votre choix, acheter des débentures du gouvernement, des débentures de corporations ou des parts communes. Vous pouvez, à l'âge de votre retraite, convertir vos placements en des rentes de votre choix. Si vous désirez d'autres renseignements, les Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario, seront heureux de vous les fournir.

L'A.D.C. répond à la Commission royale sur les services de santé

L'Association dentaire canadienne, dans une déclaration officielle sur le rapport de la Commission Hall (Commission royale d'enquête sur les services de santé), fait l'éloge de la Commission qui a souligné l'importance de la santé dentaire, mais critique vivement son rapport qui insiste sur les traitements dentaires sans attirer l'attention sur la prévention.

La déclaration de l'A.D.C., approuvée par le Conseil des Gouverneurs, à Québec, le 29 mai, a été soumise au Ministre de la Santé nationale et du bien-être social.

Avant de préparer une déclaration qui exprime un consensus d'opinion national, un comité spécial présidé par R. A. Clapison de Toronto, a examiné pendant 11 mois les recommandations du rapport Hall et a consulté les différents organismes de la profession, comités, groupes de spécialistes et praticiens, membres corporatifs, etc. . . .

La déclaration de l'A.D.C. approuve l'adoption immédiate des recommandations au sujet de la fluoration et insiste fortement pour que le gouvernement fédéral mène une campagne afin d'encourager les provinces et les villes à accepter un octroi pour la fluoration des eaux.

L'A.D.C. exprime aussi un accord général sur les recommandations concernant l'éducation et le recrutement. Quant à la répartition des praticiens, l'Association recommande que des subsides spéciaux soient accordés pour attirer les dentistes vers les petites municipalités, villages et centres ruraux, et pour attirer les spécialistes vers les centres de moyenne importance.

En principe l'Association donne son accord à la subvention aux facultés des sciences médicales et au Fonds de développement des Installations de Santé tels que le propose la commission. Toutefois, l'Association fait remarquer que ce dernier Fonds devrait rester entièrement distinct du Fonds de construction des hôpitaux.

Les soins dentaires pour les enfants et l'emploi des auxiliaires sont les deux points sur lesquels l'A.D.C. diffère d'opinion avec le rapport Hall.

L'A.D.C. rejette le programme national de traitements pour les enfants tel que le préconise la Commission parce qu'il en résulterait deux services dentaires à part: le premier, pour adultes, relevant de praticiens rémunérés à l'acte, et le second, pour enfants, rendu dans des cliniques d'état.

L'Association n'accepte pas l'existence d'auxiliaires dentaires du genre de celles de la Nouvelle Zélande qui, d'après le rapport Hall, traiteraient les enfants dans les cliniques publiques. "Nous ne devons pas copier ici les plans coûteux et imprudents de l'Angleterre et de la Nouvelle Zélande", affirme l'A.D.C.

L'Association préfère insister sur la mise en œuvre des recommandations qui favorisent l'éducation, la fluoration et les recherches augmentant ainsi le nombre de dentistes et diminuant les besoins de traitements.

On recommande, surtout de faire appel à tous les genres d'éducation pour amener les gens à comprendre qu'ils sont personnellement responsables du maintien de leur santé dentaire, de l'hygiène de

leur bouche, de leur régime alimentaire. Le public doit comprendre que c'est le devoir de chacun de se faire traiter régulièrement. L'Association recommande d'établir un programme d'éducation des plus dynamique dans toutes les régions du pays. Si le gouvernement fédéral accorde les subsides proposés pour la santé dentaire des enfants, ces subsides devraient servir à enquêter sur les besoins dentaires et à établir des programmes permanents d'hygiène dentaire. Si l'on introduit un système de traitements, ceux-ci devraient être prodigués dans des cabinets de dentistes rémunérés à l'acte. C'est aux provinces qu'il revient d'établir ces programmes et de les administrer. Il faudrait procéder autrement seulement là où on ne peut agir par l'intermédiaire des praticiens.

L'A.D.C. s'oppose au Comité consultatif pour la formation des auxiliaires dentaires tel que le propose le rapport Hall. L'Association demande plutôt qu'un comité d'étude indépendant enquête sur tous les aspects des services dentaires auxiliaires avant d'entraîner le pays à dépenser plusieurs millions de dollars pour établir des cliniques publiques et des centres de formation d'auxiliaires. Ce comité d'enquête devrait d'abord spécifier le genre d'auxiliaires nécessaires et les responsabilités qui leur seraient échues aussi bien dans la pratique privée que dans les services d'état. L'A.D.C. suggère que le comité d'enquête comprenne des praticiens et des éducateurs nommés par les organismes dentaires aussi bien que des représentants du gouvernement. Le président, impartial, devrait être acceptable à tous les membres du comité.

L'A.D.C. fait remarquer que depuis plusieurs années, on étudie la façon de donner plus d'ampleur aux services auxiliaires. A ce sujet, l'Association énumère les idées suivantes:

(a) On ne doit pas demander aux auxiliaires de faire des travaux qui nécessitent les connaissances scientifiques du dentiste qualifié. Par exemple, le diagnostic, l'évaluation du cas, l'incision ou l'ablation des tissus durs ou mous, l'administration de médicaments, la rédaction d'ordonnances. Au contraire, les auxiliaires doivent faire exclusivement la portion technique des travaux pour

lesquels ils ont été entraînés de façon particulière.

(b) Les auxiliaires ne doivent travailler que sous la surveillance du dentiste. Celui-ci doit assumer la pleine responsabilité des traitements, qu'il procède lui-même ou par l'intermédiaire de ses auxiliaires.

(c) C'est en augmentant le champ d'action de l'hygiéniste dentaire que l'on doit donner de l'expansion aux services auxiliaires.

(d) S'opposant à la multiplication des genres d'auxiliaires, l'Association croit que c'est en augmentant et en diversifiant la préparation de l'hygiéniste dentaire que l'on fera face au besoin qui existe pour certains types d'auxiliaires, par exemple en orthodontie ou en prothèse.

(e) La formation de l'hygiéniste dentaire doit continuer à se faire dans les facultés dentaires reconnues là où elle peut travailler en collaboration avec les étudiants en chirurgie dentaire.

(f) Il ne faut pas préparer les hygiénistes à ne prendre soin que d'une fraction de la population. Des auxiliaires qui ne pourraient traiter des adultes, ne seraient sûrement pas en mesure de prendre soin des enfants.

(g) Il ne faut pas préparer les auxiliaires à ne travailler que pour le gouvernement.

Le communiqué de l'A.D.C. met ensuite en doute les chiffres qu'apporte la Commission Hall lorsqu'elle tente d'évaluer le temps requis pour donner à un enfant les soins dentaires préliminaires. Ces évaluations sont trop rudimentaires pour que l'on puisse, sans étude plus approfondie, en déduire les besoins financiers et humains. L'A.D.C. relève aussi d'autres déclarations illogiques. C'est pure hypothèse que de croire que les auxiliaires que propose la Commission seraient aussi efficaces que des dentistes. Rien en permet non plus d'affirmer qu'un dentiste puisse travailler 1,500 heures par année aux programmes dentaires pour enfants tout en surveillant quatre auxiliaires.

En conclusion, l'A.D.C. souligne qu'il n'existe à peu près pas de données fiables sur lesquelles on puisse baser un estimé des exigences d'un programme dentaire public. Il est impossible, dit l'Association, d'évaluer avec précision la quantité d'ar-

gent, de personnel et d'installations nécessaires à la mise en œuvre d'un programme tel que le recommande la Commission,

sans connaître davantage les besoins dentaires des enfants et la productivité de l'équipe dentaire.

Résumé de la déclaration de l'A.D.C., concernant les recommandations de la Commission royale d'enquête sur les services de santé

On recommande l'organisation d'un programme d'éducation des plus dynamique dans toutes les régions du pays. Il faut enseigner aux enfants et aux adultes l'importance de l'hygiène dentaire et leur faire comprendre qu'ils sont personnellement responsables de son maintien.

L'Association endosse l'adoption immédiate des recommandations (45, 46, 48 et 49) sur la fluoration et insiste fortement pour que le gouvernement fédéral conduise une campagne ayant pour but d'encourager les provinces et les villes à accepter un octroi pour la fluoration des eaux de consommation.

Nous acceptons que les recommandations concernant l'éducation et le recrutement (155 à 161, 163, 164 et 167) soient appliquées immédiatement en tenant compte des modifications que nous avons suggérées. Nous croyons que les divisions d'hygiène dentaire provinciales devraient offrir des subsides spéciaux pour attirer les dentistes dans les municipalités, villages et centres de moyenne importance. Nous acceptons en principe l'octroi proposé pour la subvention des facultés des sciences médicales et au Fonds de développement des Installations de Santé, mais nous croyons que ce dernier devrait être complètement séparé du Fonds de construction des hôpitaux.

Nous sommes d'accord avec les recommandations (177 à 185) sur la recherche, mais nous croyons insuffisant l'augmentation annuelle du budget que l'on propose pour le Conseil des Recherches en Sciences médicales.

Toutes les provinces devraient organiser des programmes de traitements dentaires élémentaires pour les individus qui ont droit à l'assistance publique ainsi que pour leurs dépendants (52 et 53).

Il faut adopter immédiatement les recommandations concernant l'établissement de divisions dentaires hospitalières (54 à 57).

Il faudrait que les dentistes qui ont la compétence et l'habileté requises pour travailler dans les cadres des plans d'assurance médicaux soient remboursés par ces plans au même titre que les médecins (30 f et j).

Nous recommandons l'établissement d'un comité d'enquête indépendant qui étudie la totalité du problème des services dentaires auxiliaires. Ce comité devrait faire rapport aussitôt que possible.

L'A.D.C. est opposée à la mise en force du Programme dentaire pour les enfants, tel que le préconise la Commission.

Si le gouvernement fédéral établit un Fonds pour la Santé dentaire des enfants, ce Fonds devrait servir à enquêter sur les besoins dentaires et à établir un programme d'hygiène dentaire publique. Le programme pour l'hygiène dentaire publique devrait être établi et administré par les provinces. Si l'on en venait à établir un plan gouvernemental défrayant les traitements dentaires, ceux-ci devraient être prodigués dans des cabinets de dentistes et rémunérés à l'acte. D'autres dispositions pourraient être prises seulement dans les endroits où il n'y a pas de cabinet dentaire établi.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

"Storm Warning" Cont'd.

To the Editor:

I have great respect for Dr. Nikiforuk, both personally and as a scientist. Still, his stature as a scientist makes his letter in the April Journal both surprising and disturbing. It is surprising because it is so clearly lacking in the reticence of the scientist speaking outside his area of competence; and it is disturbing because it is indicative of the split between practitioner and non-practitioner within the profession, and of the readiness — even eagerness — of the non-practitioner to condemn increases in fees without examining the reasons for them.

The tendency to inflation is a recognized fact of life. The house that was sold for \$7,000 in 1939 fetched \$13,000 in 1951, and the same house in 1965 could not be sold for less than \$20,000. In the same way, the cost of running a practice has increased. For example, the laboratory fee for a porcelain jacket has increased 120 per cent since 1954. The dentist's fee has increased 80 per cent. In 1954 one could hire a reasonably competent assistant for \$35 a week; in 1965 the going rate is \$50 or better, and in a busy practice more than one assistant is needed. Again, in 1954 mercury cost a bit less than \$4 a pound; now it is nearer \$12; yet the going rate for a single surface amalgam filling has increased only 50 per cent.

In sum, the cost of running a practice now is about twice what it was in 1954. Yet dental fees, on average, have increased only 50 to 60 per cent. We cannot agree that this is excessive, in view of the fact that non-business expenses have also increased.

*Ray Mulrooney, D.D.S.,
2300 Lawrence Avenue East,
Scarborough, Ont.*

To the Editor:

In case you haven't had enough complaints concerning your article "Götterdämmerung" in your January issue I am adding one more to your collection.

You are certainly welcome to your own opinions however bad they may be regarding your own profession, but I must strongly object to your printing it in our journal which is paid for by us hard working, conscientious, tireless dentists who love their profession.

For those black sheep amongst us, it is for the Royal College of Dental Surgeons of Ontario to rule with stricter control and not to allow any bad public relations.

*H. G. Jaeger, D.D.S.,
10A George St. North, Galt, Ont.*

in memoriam

ROBERT THOMPSON BROADWORTH—Dr. R. T. Broadworth of Toronto died on April 16, 1965, at the age of 68. Born in 1896, he graduated from the Royal College of Dental Surgeons of Ontario in 1921. Dr. Broadworth is survived by two daughters, Mrs. R. Dory and Mrs. W. Slattery, and three grandchildren, Richard Dory, and Jimmy and Darlene Slattery.

ARTHUR EDWARD CHEGWIN — Dr. A. E. Chegwin of Regina died on March 30, 1965, at the age of 69. He was born in Lacombe, Alberta, and graduated from the Royal College of Dental Surgeons of Ontario in 1919. He practised in Moose Jaw from 1919 until 1948, during which time he also served as a part-time school dentist. In 1948 he was appointed director of dental health in the Department of Public Health of Saskatchewan and moved to Regina. He retired in 1964. Dr. Chegwin served with the Canadian Army during the first World War and as a major with the Canadian Dental Corps in World War II. He was a member of the American Public Health Association; an honorary member of the Canadian Public Health Association, the Saskatchewan Branch of the Canadian Public Health Association and the Regina and District Dental Society; and a fellow of the International College of Dentists. Dr. Chegwin is survived by one son and three daughters.

ALLAN ROY COOKE—Dr. A. R. Cooke of Kingston, Ontario, died on March 7, 1965, at the age of 67. He was born in Kingston and attended Queen's University and the University of Toronto. Following graduation from the Royal College of Dental Surgeons of Ontario in 1923, Dr. Cooke practised in Lloydminster, Saskatchewan, and Oshawa, Ontario, before going to Kingston in 1941. Besides his wife, Viola, Dr. Cooke is survived by two sons, Malcolm of Toronto and David of Kingston; a daughter, Mrs. Gordon McCulloch of Germany; three brothers; and one sister.

ROBERT DUNLOP—Dr. Robert Dunlop of Toronto died on February 19, 1965. He was 70. Dr. Dunlop was born in Williamstown, Ontario, in 1894 and graduated from the Royal College of Dental Surgeons of Ontario in 1922. Surviving Dr. Dunlop are his wife, Helen Orella; a daughter, Helen Irene; a brother, William of To-

ronto; and three sisters, Jessie of New York City and Llewella and Margaret of Williamstown.

ELWOOD DELAIN GOWER — Dr. E. D. Gower of Meaford, Ontario, died on February 24, 1965, at the age of 53. He was born in Meaford in 1911 and graduated from the University of Toronto in 1936. Besides his wife, Marjorie, Dr. Gower is survived by two sons, James and Robert of Toronto, and two daughters, Wendy and Patricia of Meaford.

FREDERICK HENRY JONES — Dr. F. H. Jones of Toronto died on February 7, 1965. He was 78. Born in St. Thomas, Ontario, in 1886, Dr. Jones graduated from the Royal College of Dental Surgeons of Ontario in 1912. He practised for several years in Alberta before going to Toronto, retiring in 1961. Dr. Jones is survived by his wife, Anna; a son, Dr. Crawford Jones of Orillia; a sister, Mrs. Edith Wright of St. Thomas; and four grandchildren.

LEONARD HAROLD REED — Dr. L. H. Reed of Woodstock, New Brunswick, died on February 18, 1965. He was 71. Born in Fredericton in 1894, Dr. Reed graduated from Tufts University, Boston, in 1918. Surviving are his wife, three daughters, one brother and one sister.

WALTER HOWARD RENWICK—Dr. W. H. Renwick of Preston, Ontario, died on March 5, 1965, at the age of 67. He was born in Hespeler, Ontario, in 1897 and graduated from the Royal College of Dental Surgeons of Ontario in 1923. Dr. Renwick is survived by his wife, Loretto; a daughter, Mrs. N. R. Brethour of Toronto; a brother, H. L. Renwick of Montreal; and a sister, Mrs. J. J. Shaw of Hespeler.

CLAIR JORY WOOD—Dr. C. J. Wood of Sudbury, Ontario, died on February 22, 1965. He was 69. Dr. Wood was born in Exeter, Ontario, in 1896, and graduated from the Royal College of Dental Surgeons of Ontario in 1917. He practised in Shelburne and Blyth, Ontario, before going to Sudbury. He was a member of the Canadian Dental Association, the Ontario Dental Association and the Sudbury and District Dental Association. Dr. Wood is survived by his wife, Mary Enid.

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Quarterly report

May 31, 1965

	<i>Amount invested</i>	<i>Market value</i>	<i>Unit value</i>
Government Bond Fund	\$ 497,644	\$ 504,273	\$13.574
Corporate Bond Fund	861,389	866,727	14.362
Common Stock Fund	2,443,638	2,982,572	20.015
	<u>\$3,802,671</u>	<u>\$4,353,572</u>	

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Rapport trimestriel

le 31 mai 1965

	<i>Montant investi</i>	<i>Valeur au marché</i>	<i>Valeur unitaire</i>
Fonds d'obligations gouvernementales	\$ 497,644	\$ 504,273	\$13.574
Fonds d'obligations corporatives	861,389	866,727	14.362
Fonds d'actions ordinaires	2,443,638	2,982,572	20.015
	<u>\$3,802,671</u>	<u>\$4,353,572</u>	

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Oral prosthesis for cerebral palsy children

K. W. Davey,* D.D.S., M.Sc.D. and Roy Wainman, Toronto, Ontario

Two appliances are described that may be used by handicapped patients who suffer from cerebral palsy and have limited muscular control. The simple mouthstick, designed to do one or two simple tasks, is sturdy, does not promote drooling and is self-retentive. The grasping mouthstick evolved from the simple mouthstick. This device enables the handicapped patient to pick up and move small objects. The construction and some applications for these appliances are described. These devices open up new fields of activity for the cerebral palsy patient.

Nous décrivons ici deux appareils pouvant être utilisés par les malades de paralysie cérébrale ayant peu de contrôle musculaire. Un simple bâton buccal à l'intention d'accomplir une ou deux besognes très simples, est solide, n'occasionne pas de bave et est rétentif. Ce dispositif facilite, au patient infirme, de lever et mouvoir de petits objets. On explique la construction et la méthode d'emploi de ces appareils; grâce auxquels, tout un champ de nouvelles activités est ouvert à ceux qui souffrent de paralysie cérébrale.

Cerebral palsy has been described as the neuromotor component of a group of childhood neurological disorders which reflects cerebral dysfunction resulting from maldevelopment occurring during or after birth. The result is the patient's inability to control parts of the body because of a dysfunction of part of the brain where motor control originates.¹

The cerebral palsy syndrome has been divided into different types, but no one classification is universally accepted. Most children exhibit a mixture of the various types of cerebral palsy, but in all cases there is lack of neuromotor control. These patients also have associated dysfunctions pertaining to sight, hearing, speech and perception, and these problems may be further complicated by other syndromes of cerebral dysfunction of which mental retardation is the most troublesome from the viewpoint of dental management.

*Assistant professor of paedodontics, Faculty of Dentistry, University of Toronto, and chief of dentistry, the Hospital for Sick Children.

When one realizes that the full potentialities of a normal person are rarely developed, it becomes the task of the therapist to develop the latent abilities in the handicapped patient. The oral mouthpieces described in this article were developed initially at the Ontario Crippled Children's Centre and more recently at the Hospital for Sick Children in Toronto and have been used, in selected cases, by children with impaired motor ability. Even a simple prosthesis, designed to do one or two insignificant tasks, opens a whole world of meaningful activities for the cerebral palsy patient.

Two basic designs are being used at the Hospital for Sick Children at the present time — the simple oral mouthstick and the grasping mouthstick.

SIMPLE MOUTHSTICK

This is merely a 'pusher' or a stick stabilized in the mouth and controlled mainly by the neck muscles. This type of mouthpiece has been successfully used in the past with various modifications. Buckley, for example, describes an acrylic mouthpiece for poliomyelitis and cerebral palsy patients.² His appliance covers the clinical crowns of all the teeth and has an anterior acrylic extension projecting down at an angle of 45° to the horizontal which is hollowed out to hold a pencil or a stick. The appliance lies in the intra-occlusal space, permitting the patient to wear it comfortably for extended periods of time. Buckley's prosthesis requires that the patient bite directly into the acrylic resin to secure stability. This prolonged voluntary biting action is impossible for cerebral palsy patients with athetoid movement. Swallow overcame this problem by incorporating a bite plane of soft acrylic resin that seems to be more comfortable than the hard acrylic resin.³ He points out that movements produced by an oral prosthesis are less crude than the movements resulting from devices attached to the forehead by a cap or band. However, he also feels that an oral appliance should be used only when all other avenues have been closed and where proper therapy instruction is available.

In all appliances of this type, the problem of oral hygiene is increased.

Description of the Simple Mouthstick.— This appliance is a further modification of those used by Buckley and Swallow, and was designed specifically for cerebral palsy patients with athetoid characteristics. Three factors were considered in incorporating improvements for this simple oral prosthesis. These factors and the appropriate modifications that were adopted are:

(a) Strength. The acrylic stem protruding from the mouth, designed to hold the pencil or other utensil, frequently cracks or breaks during uncontrolled head movements. We substituted a thin, one-eighth inch, stainless steel stem joining a metal pencil housing at the extra-oral end to a metal arch soldered to the other end of the stem and embedded into the intra-oral acrylic mouthpiece. This arrangement has proven to be almost unbreakable.

(b) Bulk. Drooling is a constant problem with cerebral palsy children. The bulky acrylic stem seemed to encourage this seepage of saliva. The thin single metal stem positioned just below the line of the upper lip when in repose does not, however, promote increased drooling. Hygiene and patient comfort are, therefore, improved.

(c) Retention. In view of the lack of motor control for muscles of the mandible in athetoid patients, we wanted to eliminate the necessity for contact between the mandibular teeth and the acrylic bite plane. We therefore eliminated the soft acrylic resin used in the occlusal area of the Swallow appliance. Retention was gained by adding soft acrylic resin to the undercut areas about the teeth and extending this material up over the gingiva into the mucco-buccal fold of the maxilla. This renders the appliance self-retentive. The intra-oral portion consists of hard acrylic resin which covers the non-undercut buccal, lingual and occlusal surfaces of the teeth and surrounds the intra-oral metal arch. The remainder of the intra-oral portion of the mouthpiece is moulded in soft acrylic resin which becomes pliable when warmed.



FIGURE 1 Simple mouthstick. (1) Aluminum housing; (2) Stainless steel stem; (3) Two lengths of 'lingual bar' soldered to the stem and embedded into hard acrylic resin; (4) Intra-oral acrylic portion of appliance composed of hard and soft acrylic resin.

This simple appliance (Figure 1) is strong, does not increase drooling, is self-retentive and is independent of the forces of occlusion and unco-ordinated mandibular movements. The appliance must be warmed prior to insertion to allow the soft acrylic flanges of the mouthpiece to slide into the undercut soft tissue areas in the mouth.

One modification of the simple mouthstick is illustrated in Figure 2. This applies in cases where the spastic child is severely affected and the strong contractions of lip muscles frequently dislodge the appliance. We found that the best method to overcome this was to incorporate a standard orthodontic face bow into the mouthpiece. The inner bow is embedded into the acrylic resin and a hook soldered on each of the two outer extra-oral arms of the face bow. An elastic strap, such as an elastic cervical traction brace, may be extended from one hook over the head to the hook on the other side (Figure 2). This helps to stabilize the appliance during extreme muscle spasms.

Construction of the Simple Mouthstick.—An alginate impression is satisfactory, but

in some cases for severely afflicted patients a custom tray is made and a final impression taken in a rubber or silicone base. Wax bite registrations are taken at this time.

Standard metal blanks may be prefabricated and adapted for each individual patient. This reduces cost and time. The materials and equipment for making these blanks are usually readily available in institutions concerned with the care of handicapped patients. The components required for this mouthstick are as follows:

1. The pencil housing is made of one aluminum rod, $\frac{1}{2}$ inch in diameter and $1\frac{1}{2}$ inches long. One end is drilled $\frac{5}{8}$ inch deep to fit the $\frac{1}{8}$ inch stem. The other end is drilled pencil size $\frac{7}{8}$ inch deep and $1/16$ inch off centre. The heavy side (bottom) is drilled and tapped to take a $\frac{3}{8}$ inch knurled head screw. The stem end is tapered to reduce weight.

2. The stem is $\frac{1}{8}$ inch stainless rod, four inches long. Two lengths of half round stainless lingual bar two inches long are bent to conform to the buccal and labial surface of the teeth, and the last $\frac{1}{2}$ inch is straight and soldered to one end of the $\frac{1}{8}$ inch rod. The other end of the stem is flattened slightly and pressed to fit into the aluminum housing.

Fabrication and processing of the intra-oral acrylic portion of the appliance is as follows:

Self-curing soft acrylic resin such as Flexene or a similar material is laid over the teeth, gingiva and palatal area, 1-2 mm. thick, and allowed to cure. The metal holder is positioned so that the soldered junction is slightly below the incisal edge of the central teeth. This is done to minimize interference with lip movement. The metal holder is stabilized in place with self-curing hard acrylic resin which is extended over the soft acrylic resin but leaving its peripheral area exposed for comfort. The hard acrylic resin gives rigidity to the appliance.

Regular heat-cured denture acrylic resin may also be used. The hard acrylic resin is placed first in the flask and a

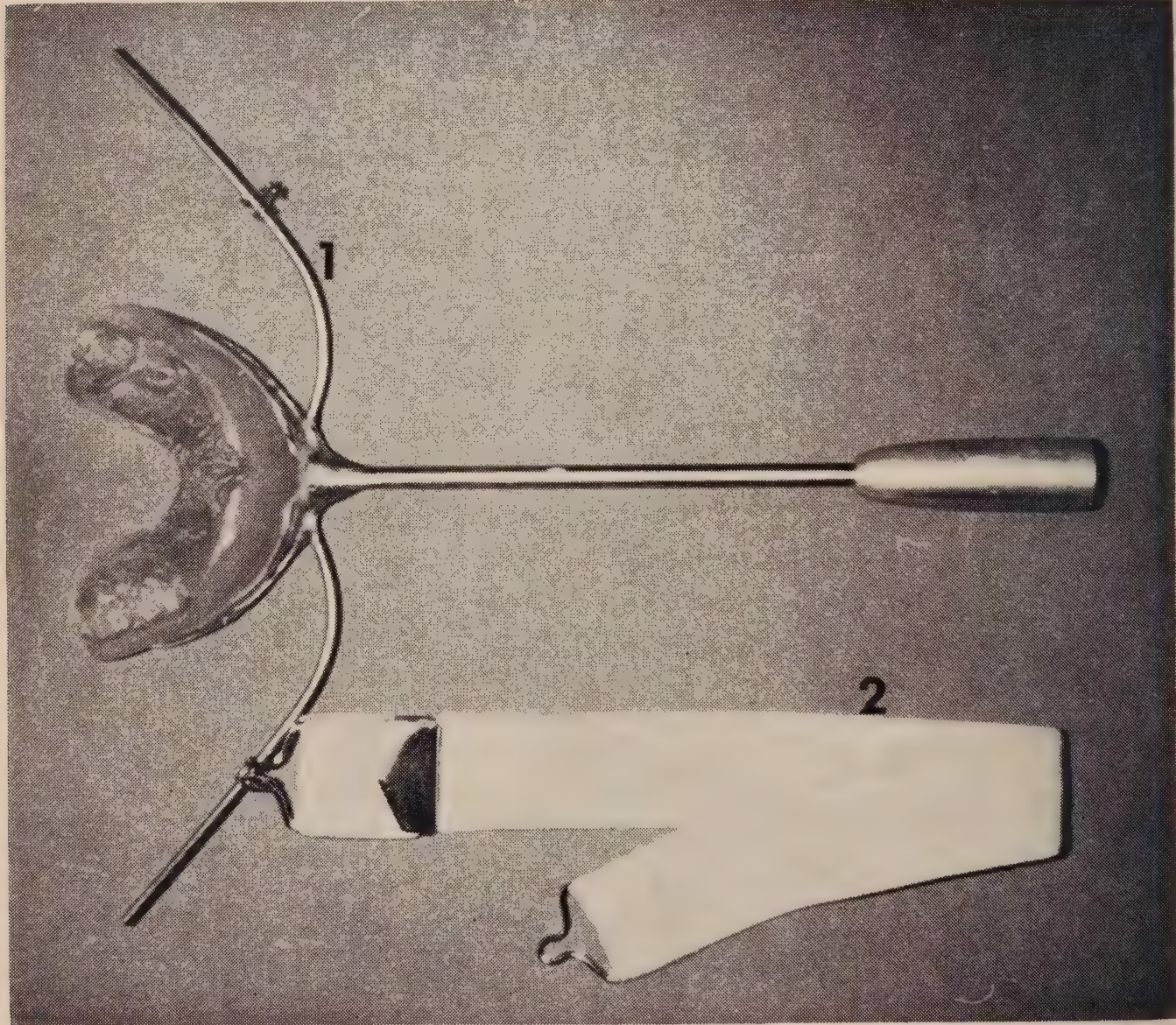
lining of soft acrylic resin is added for the undercut areas. We have found Impak (Vernon-Benshoff) very satisfactory for this purpose.

Application of the Simple Mouthstick.—

The greatest benefit derived from this appliance is that it enables the patient to use an electric typewriter. The cerebral palsy patient who cannot write and whose speech is often severely handicapped may communicate intelligently by merely touching the keys of this sensitive machine.

It is amazing how these children, with the guidance of a therapist, can harness various muscles and direct their activity to producing words and sentences on paper. Other activities may also be pur-

FIGURE 2 Modification of the simple mouthstick for added stability. (1) Orthodontic face bow (outer arm with hook). (2) Elastic cervical traction brace.



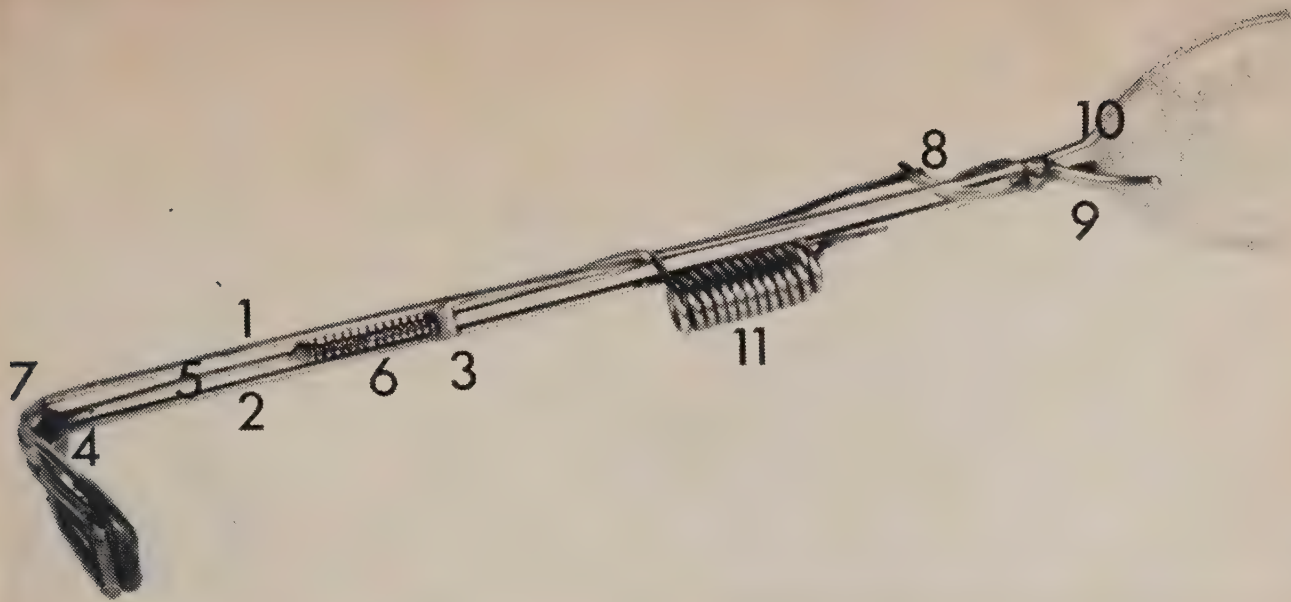


FIGURE 3 Grasping mouthstick. Numbers refer to details of construction outlined in the text.

sued, such as painting and checker playing.

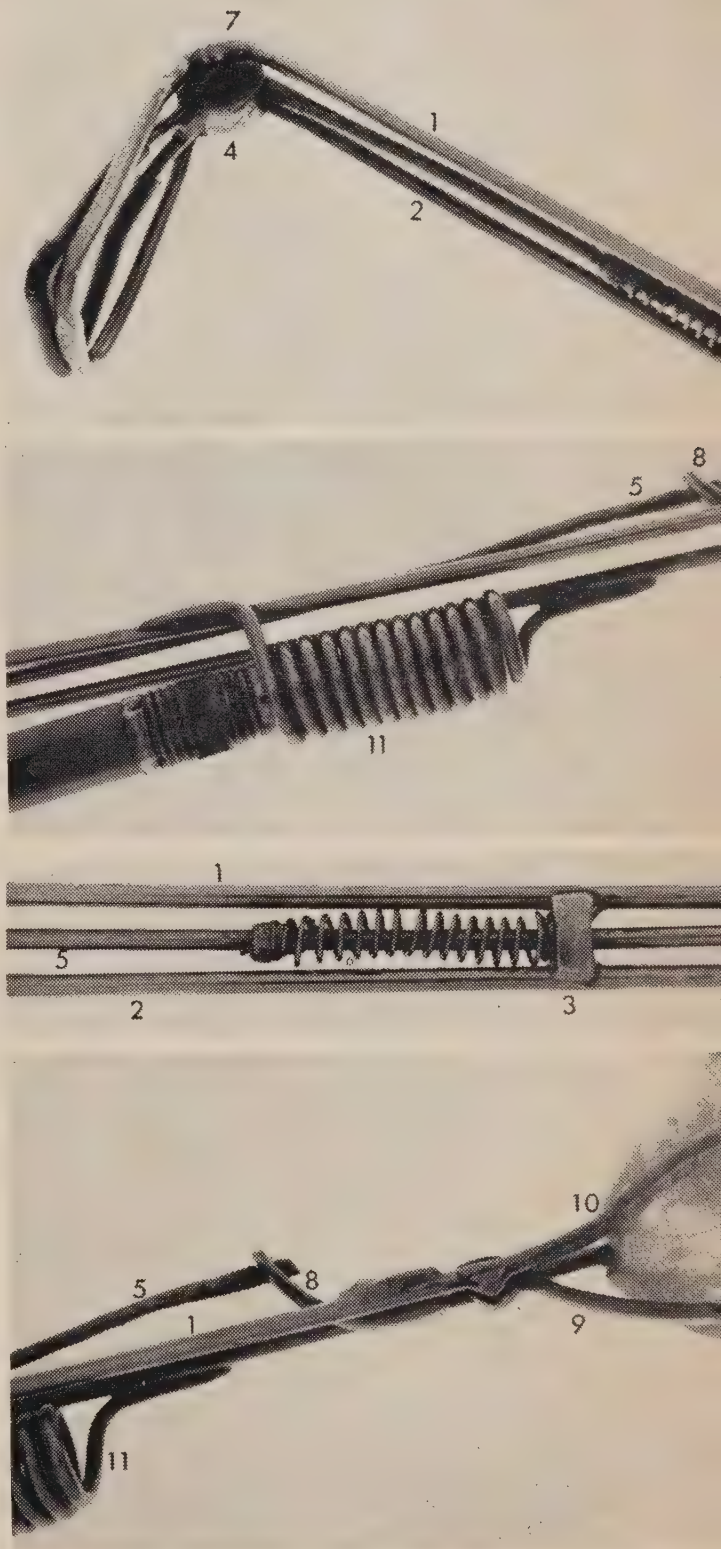
GRASPING MOUTHSTICK

A sequel to the simple push-type prosthesis is an oral appliance with the added advantage of a mechanism designed for grasping, picking up or moving small objects. This enables the typist, for example, to insert paper into the machine.

An interesting 'pincer mouthstick' was described in 1957 by the Occupational Therapy Department and the Research Brace Shops of the Georgia Warm Springs Foundation.⁴ This mouthstick was designed for placement of paper in typing; however, its manipulation required more jaw co-ordination than the average athetoid cerebral palsy patient possessed. Also the appliance was designed only to pick up paper.

In our first attempt at designing a grasping mouthstick we used a mechanism by which a plunger, when depressed by the tongue, opened a spring-loaded clamp at the other end of the appliance. This device, although operable, was not routinely used by the patient because the tongue became fatigued and sore. There was also some concern that this tongue action might accentuate the tongue-thrusting reflex.

Description of the Grasping Mouthstick.—The appliance now being successfully used at the Hospital for Sick Children



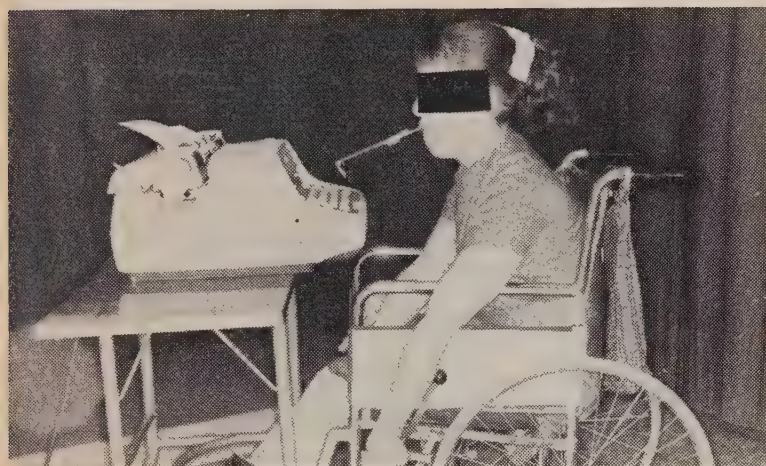


FIGURE 4 Patient using grasping mouthstick for typewriting.

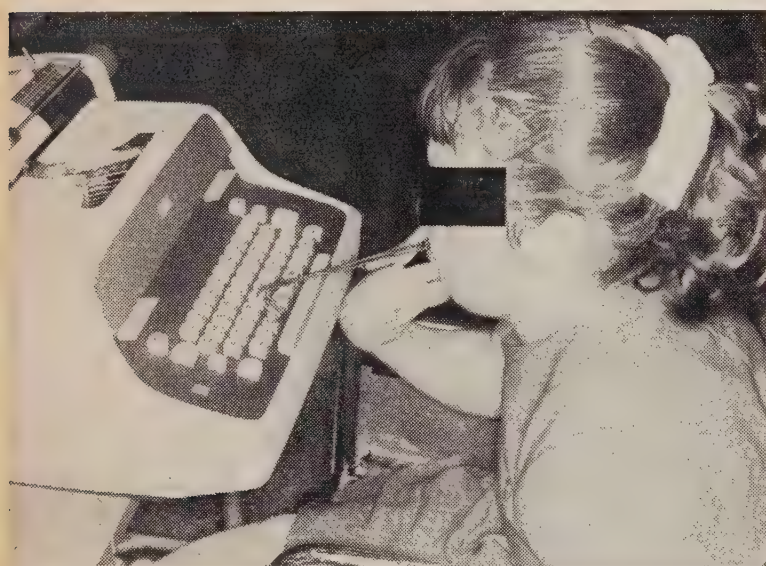


FIGURE 5 Typewriter keys are tripped as base of grasping mouthstick claw brushes key of electric typewriter.

(Figure 2) operates as the patient's lower incisors occlude on a spring-loaded lever. This in turn opens the clamp at the end of the mouthstick. The intra-oral acrylic portion of this prosthesis is similar to that of the simple oral mouthstick. The remainder of the appliance, except for a disk which is easily fashioned in brass, is constructed of stainless steel materials familiar to the dentist and readily purchased from most dental supply companies. The extra-oral stem which supports and incorporates the clamping mechanism projects eight inches from the mouth and is made of two rods of 0.75 stainless steel wire.

Construction of the Grasping Mouthstick.

—The impression technique and the fabrication of the intra-oral portion of this prosthesis utilizing hard and soft acrylic

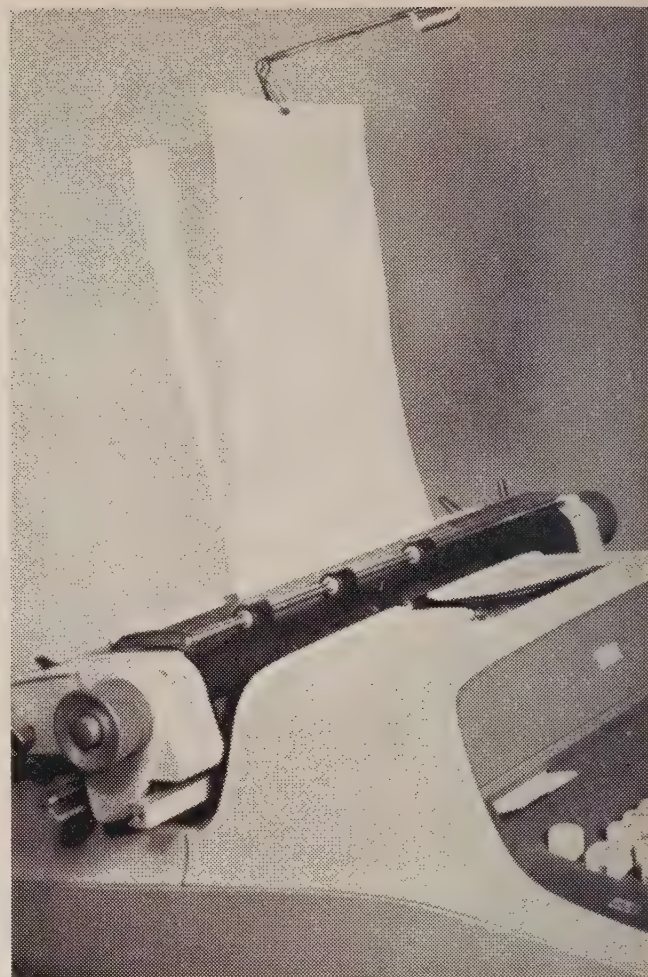


FIGURE 6 Cardboard backing helps to guide paper into typewriter.

resin are similar to those described for the simple mouthstick. The additional materials required are: two pieces of .070 stainless steel wire, 12 inches long; one piece of .060 stainless steel wire, 12 inches long; one piece of 7/16 inch brass rod, 3/16 inch thick; one piece of half round 'lingual bar,' three inches long; one piece of .060 I.D. stainless steel tubing, three inches long; one piece of .010 spring wire, 1½ inches long; and one piece of .035 spring wire, 1½ inches long.

Details for the design and construction of the stem and claw mechanism are outlined below. Parenthetical numbers in the text correspond to those illustrated in Figure 3.

Using one .070 wire (1) from side and bottom of a triangle with base $\frac{3}{4}$ inch, side $1\frac{1}{8}$ inch and approximately 100° from the horizontal. Eight inches from the apex of the triangle bend the wire to fit the labial and buccal areas of the teeth.

Repeat this procedure with a second wire (2), base $\frac{3}{4}$ inch, side $1\frac{1}{16}$ inches.

Solder both together along the base of the triangle, one above the other to double the area of the gripping surface.

Form spacer, guide and spring retainer (3) using 3/16 inch piece of lingual bar. Drill a hole through the centre for .060 wire and solder to frame (1 and 2) approximately in position as illustrated.

Slot a brass disk to take the flattened end of the .060 wire (5). Drill disk and flattened wire end to form a pivot point and insert a short length of .010 wire into hole. Drill hole in centre of disk and two other holes side by side on the edge of the disk directly opposite the other holes.

Slip a small washer over the .060 wire (5), then put spring (6) in place and slide .060 wire through hole in spacer (3).

Place disk with a short length of .060 wire in central hole and position at under side of angle formed at (7) and solder in place. Move washer back to put tension on spring against spacer (3). Only light pressure is required. Solder washer in place with soft solder.

Using .035 wire, wind coil (11) with diameter large enough to take a pencil. This serves as a pencil housing if required. Solder to (1) and (2) as illustrated.

A second triangle is made to match the first one and the top tips (apex) are formed to fit into the twin holes on the edge of the disk (4) and soldered into place. The triangle jaws of this clamp, when set apart, may be dipped several times in latex, or coated with soft plastic to give the gripping surfaces better retention when grasping objects.

The activating parts are made of 'lingual bar.' A one inch long piece (8) is bent to form an arc of 2 inches radius. Two-thirds of the way from one end a 3/16 inch piece of tubing is soldered in place on the flat surface. The long end of (8) is grooved to take the other end of the .060 wire (5).

Place a short piece of .060 wire in tubing and solder to the top edge of the .070 wire rods (1) and (2) about one inch from the acrylic resin at point (10).

A second piece of one inch long 'lingual bar' (9) is bent into an elongated 'S' shape. Tubing, 3/16 inch, is soldered to the round side of (9) two-thirds of the way from one end. Place a piece of .060

wire through the tubing and place so that the short legs of (8) and (9) overlap and solder (9) to the bottom edge of .070 wire rods (1) and (2).

A short piece of wire is soldered over the junction of (8) and (9) to the upper surface of (1) and (2) to keep the parts (8) and (9) in position.

Check all moving parts for freedom of movement. Spring (6) should offer the only resistance.

Application of the Grasping Mouthstick.—The potentialities of this appliance are limited only by the imagination of the

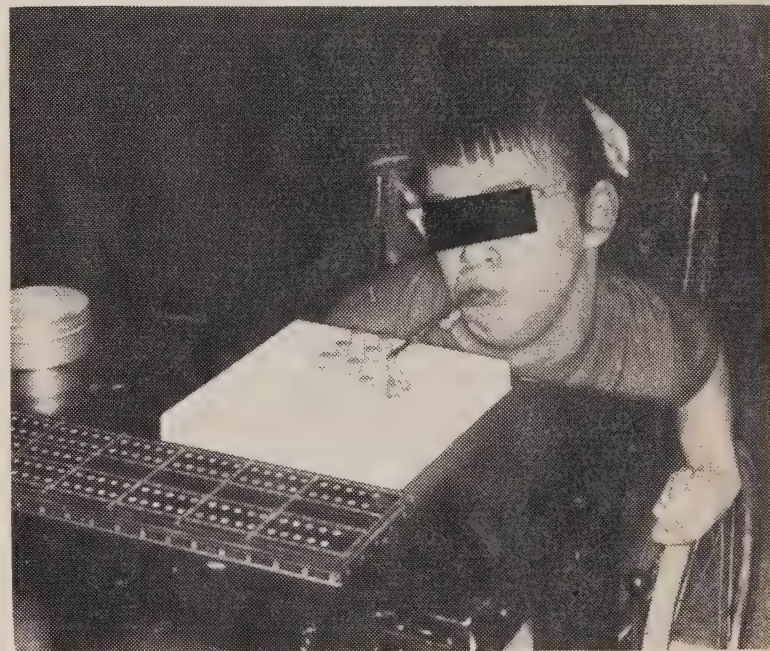


FIGURE 7 The moving of plastic pegs on pegboard illustrates a type of activity accomplished with the grasping mouthstick.

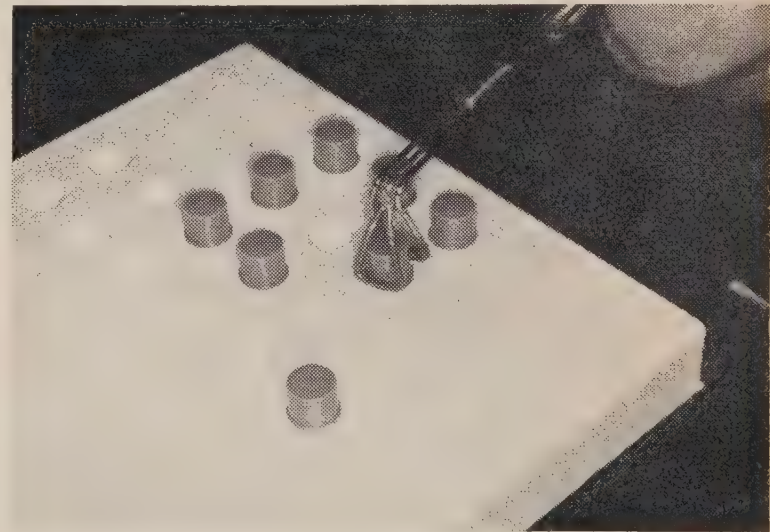


FIGURE 8 Close-up of grasping mechanism illustrated in Figure 7.

patient and the therapist. As with the simple mouthstick, the greatest contribution seems to be in typewriting (Figures 4,5). This appliance enables a patient to insert properly stacked paper into the typewriter. This act is facilitated if a small sheet of cardboard is fastened to the typewriter carriage behind the roller to serve as a guide in directing the paper into the machines (Figure 6).

We have found that the manipulation of such games as chess and cribbage, where the 'men' must be lifted and moved to various positions, is possible with this grasping mouthstick. In most instances, and particularly in cribbage, the sets must be modified, however. A cribbage board, for example, with small pegs and holes requires movements that are too delicate for the spastic patient. When the holes are enlarged and the 'men' are light in weight, manipulation is possible. This is illustrated in Figures 7 and 8 where small, hollow plastic pegs about $\frac{1}{2}$ inch high are inserted into holes of approximately $\frac{1}{4}$ inch diameter.

When playing cards are used, the cards must be placed on a rack before selection with a mouthstick is possible.

The coiled wire pencil housing soldered to the stem of this appliance is used for

such jobs as painting if the patient does not have a simple mouthstick.

SUMMARY

Two appliances are described that may be used by handicapped patients who suffer from cerebral palsy and have very limited muscular control.

The simple mouthstick, designed to do one or two simple tasks, is sturdy, does not promote drooling and is self-retentive.

The grasping mouthstick evolved from the simple mouthstick. This device enables the handicapped patient to pick up and move small objects.

The construction and some applications for these appliances are described. These prostheses open up new fields of activity for the cerebral palsy patient.

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124 Edward Street

History of Canadian Dentistry • Former Canadian Dental Association Secretary Don W. Gullett is now assembling all available historical information in preparation for the publication of a history of Canadian dentistry. The co-operation of Journal readers, who possess or know of information of historical interest, would be greatly appreciated. If requested, subject matter forwarded to Dr. Gullett will be returned to the sender. Information should be addressed to Don W. Gullett, 5 Colwick Drive, Willowdale, Ontario.

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Brantford-Sarnia-Stratford Fluoridation Caries Study: Final Survey, 1963

There has been a continuing reduction in caries experience in 16 and 17 year old Brantford children during the 17½ years since the Brantford water supply was first fluoridated. The Brantford data for these children are compared to similar data from Sarnia (not fluoridated) and from Stratford (naturally fluoridated). The data indicate that there is essentially no difference in caries reducing effect between a mechanically fluoridated water supply and a naturally fluoridated water supply. This beneficial effect of water fluoridation extends at least until the eighteenth year of life.

Les constatations de l'enquête de 1963, dans le cadre de l'étude de Brantford sur la fluoration, démontrent après 17½ ans de fluoration à Brantford une diminution constante de l'état de la carie chez les enfants de 16 et 17 ans, de Brantford. Les données de Brantford concernant ces enfants, sont présentées par rapport à des données analogues obtenues à Sarnia (absence de fluor) et à Stratford (fluoration naturelle). Les données indiquent qu'entre une eau d'alimentation mécaniquement fluorée et une eau d'alimentation fluorée par la nature, il n'y a essentiellement pas de différence dans l'effet de diminution de carie. Elles indiquent aussi que cet effet bien-faisant persiste au moins jusqu'à la dix-huitième année de vie.

By the time that Brantford, Ontario, began to fluoridate its water supply in 1945 a great deal of information had been obtained from various parts of the world

concerning the effect of naturally fluoridated water on dental caries. This information showed that the incidence of tooth decay is greatly reduced in populations consuming from birth naturally fluoridated water at a level of about one part per million. No ill effects at this level were observed. We therefore wished to determine whether the incidence of tooth decay could be reduced among children consuming fluoride - deficient

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TABLE 1 Native, continuously resident 16 and 17 year old children examined in Sarnia, Brantford and Stratford, 1963.

Sarnia	Brantford	Stratford
482	356	227

water by the controlled adjustment of the fluoride content of that water supply to about one part per million.

The Brantford water supply has been continuously fluoridated since 1945. In 1946 the Department of National Health and Welfare was invited to make a comparison study of the dental effects of water fluoridation by periodically examining the teeth of Brantford children, the teeth of children living in a city having a naturally fluoridated water supply (Stratford) and also the teeth of children of a city having a negligible amount of fluoride in its water supply (Sarnia). The Dental Health Division of the Department of National Health and Welfare conducted this study with assistance from the Research and Statistics Division of the Department, and with the co-operation of the Ontario Department of Health and the local departments of health of Brant County, of Stratford and of Lambton (Sarnia).

SELECTION OF CHILDREN

All native 16 and 17 year old children continuously resident in each city were included in the study (Table 1). Continuous residence encompasses absences, since birth, of six weeks or less. Thus the study compares (1) Brantford children who used mechanically fluoridated water continuously since birth, with (2) Sarnia children who used fluoride-deficient water continuously since birth, and (3) Stratford children who used continuously since birth water naturally fluoridated from underground deposits of fluoride. For individual children, residence eligibility was determined from information supplied by the parents. Vocational, and all separate and public secondary schools of each city were included.

EXAMINING AND RECORDING METHOD

All examinations were done by the same examiner (H.K.B.) in order to maintain as uniform a scale of observation as possible throughout the study. A portable examining light of specific intensity, kept at a constant distance, plane mouth mirrors and No. 5 Clev-dent explorers were used for this purpose. The lowest limit in size for a carious lesion was defined as one in which the point of the explorer would stick and resist direct withdrawal, or in which softness could be felt. Hard discoloured enamel surfaces and enamel imperfections were not recorded as caries.¹

A chart depicting all the coronal surfaces of both permanent and deciduous teeth was used for recording. Although this report presents data only for DMF (decayed, missing and filled) permanent teeth, tooth decay was recorded in the detail necessary for analysis by the number of surfaces affected. Every tooth space was accounted for. This permitted later analysis in terms of a DMF tooth record of all erupted teeth per child.

RESULTS

Findings are presented in respect to (1) all permanent teeth, and (2) permanent upper incisors.

Indices used in this report to measure caries prevalence are (1) percentage of caries-free children (having no permanent tooth caries experience), (2) tooth mortality rate, (3) DMF permanent teeth per child, and (4) caries-free and DMF permanent upper incisors.

Caries-Free Permanent Teeth.—The percentages of children in each city with caries-free permanent teeth (DMF=0) are shown in Table 2 and in Figure 1. The difference between Sarnia and Brantford is highly significant and is in favour of the Brantford children. There is no statistically significant difference between Brantford and Stratford. In Sarnia only about one child in 250 in the age group examined had caries-free permanent teeth, whereas in Brantford and Stratford ap-

TABLE 2 Percentage of 16 and 17 year old Sarnia, Brantford and Stratford children with caries-free permanent teeth, 1963.

Sarnia		Brantford		Stratford	
%	S.E.	%	S.E.	%	S.E.
0.41	±0.291	11.80	±1.710	12.78	±2.216
Inter-city differences					
Sarnia Brantford			Brantford Stratford		
11.39 SS			0.98 NS		

SS: statistically significant at three standard error level.

NS: not statistically significant ($p > 5$ per cent).

proximately 12 children per 100 had caries-free permanent teeth.

Tooth Mortality.—There is direct correlation between tooth mortality (missing or irreparable teeth per 100 children) and the caries attack rate (DMF teeth per child). Tooth mortality is not a very sensitive measure and can be strongly affected by treatment, but a lower tooth mortality should reflect any measure which operates to reduce the occurrence of dental caries

among children. Tooth mortality findings are summarized in Table 3.

Tooth mortality is considerably higher in Sarnia than in the fluoridated cities, Brantford and Stratford. There is no significant difference in tooth mortality between these latter two cities.

DMF Permanent Teeth.—An effective community-wide anti-caries measure decreases the number of persons affected by

TABLE 3 Mean tooth mortality (missing and irreparable permanent teeth per 100 children) in 16 and 17 year old Sarnia, Brantford and Stratford children, 1963.

Sarnia		Brantford		Stratford	
Rate	S.E.	Rate	S.E.	Rate	S.E.
131.33	±10.433	37.92	±4.274	41.85	±5.758
Inter-city differences					
Sarnia Brantford			Brantford Stratford		
—93.41 SS			3.93 NS		

SS: statistically significant at three standard error level.

NS: not statistically significant ($p > 5$ per cent).

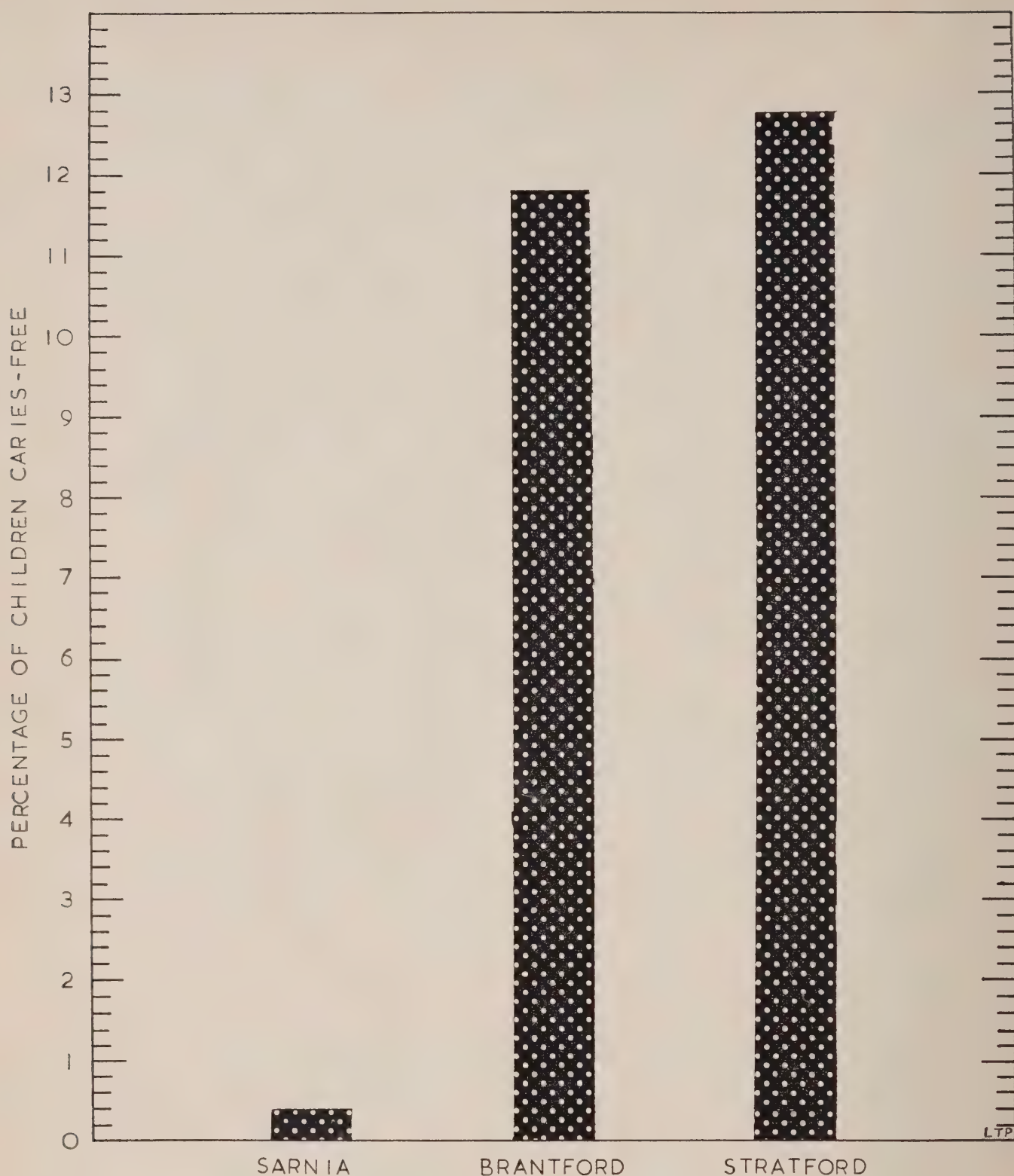


FIGURE 1 Percentage of children with no permanent tooth caries experience in the 16 and 17 year old age group in Sarnia, Brantford and Stratford, 1963.

dental caries. It also reduces individual caries susceptibility, as reflected by caries attack rates. In this respect there is a highly significant difference between Sarnia and Brantford children, while again there is no significant difference when comparing Brantford and Stratford children (Table 4 and Figure 2).

Caries-Free and DMF Permanent Upper Incisors.—Dental caries experience in the upper permanent incisors is shown in Tables 5 and 6. Brantford children sustain an extremely low level of caries attack upon their upper permanent incisors. There is a striking difference between the Sarnia and Brantford children. Brantford

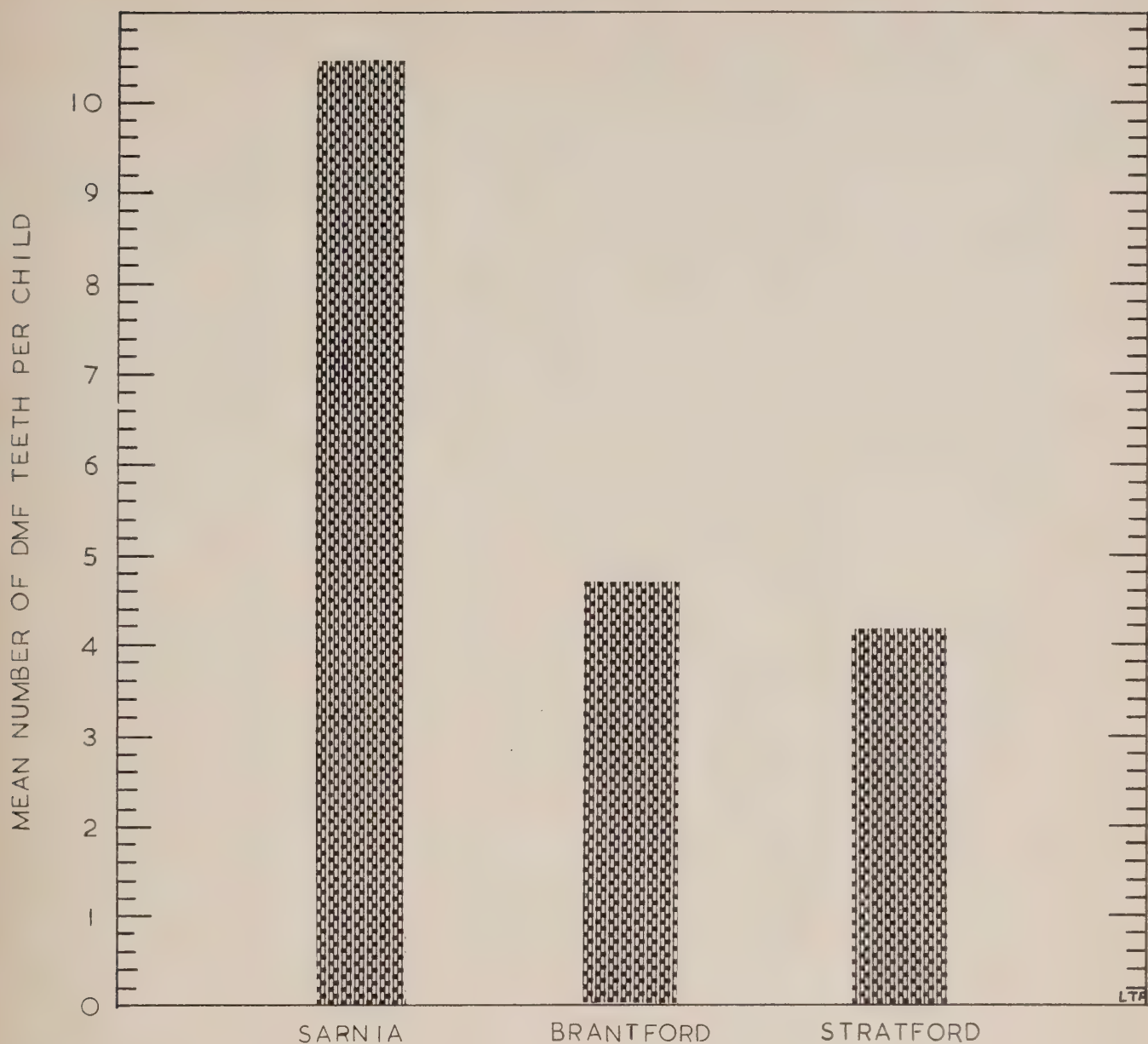


FIGURE 2 Mean DMF permanent teeth per child in the 16 and 17 year old age group in Sarnia, Brantford and Stratford, 1963.

TABLE 4 Mean DMF permanent teeth per child in 16 and 17 year old Sarnia, Brantford and Stratford children, 1963.

Sarnia		Brantford		Stratford	
Rate	S.E.	Rate	S.E.	Rate	S.E.
10.44	±0.215	4.74	±0.176	4.19	±0.212
Inter-city differences					
Sarnia Brantford			Brantford Stratford		
—5.70 SS			—0.55 NS		

SS: statistically significant at three standard error level.
NS: not statistically significant (p > 5 per cent).

TABLE 5 Percentage of 16 and 17 year old Sarnia, Brantford and Stratford children with caries-free permanent upper incisors, 1963.

Sarnia		Brantford		Stratford	
%	S.E.	%	S.E.	%	S.E.
45.85	±2.270	87.92	±1.727	85.46	±2.340
Inter-city differences					
Sarnia Brantford			Brantford Stratford		
42.07 SS			—2.46 NS		

SS: statistically significant at three standard error level.
NS: not statistically significant ($p > 5$ per cent).

TABLE 6 Mean DMF permanent upper incisors per child in 16 and 17 year old Sarnia, Brantford and Stratford children, 1963.

Sarnia		Brantford		Stratford	
Rate	S.E.	Rate	S.E.	Rate	S.E.
1.38	±0.070	0.22	±0.035	0.30	±0.055
Inter-city differences					
Sarnia Brantford			Brantford Stratford		
—1.16 SS			0.08 NS		

SS: statistically significant at three standard error level.
NS: not statistically significant ($p > 5$ per cent).

and Stratford children, on the other hand, exhibit comparable caries resistance in the permanent upper incisors.

OTHER EFFECTS OF FLUORIDATION

No cases of unsightly mottling were observed among the children examined in Brantford and Stratford. Neither did we observe any ill effects attributable to the presence of fluoride in the water supply. The health authorities and the practising

physicians of Brantford and Stratford did not report any ill effects either.

SUMMARY

The 1963 findings of the Brantford Fluoridation Study are consistent with those of previous surveys of the native child populations of Sarnia, Brantford and Stratford.²⁻⁵ There has been continuing reduction in caries experience in 16 and 17 year old Brantford children during the

17½ years following the introduction of water fluoridation in Brantford. The Brantford data for these children are compared to similar data from Sarnia (not fluoridated) and from Stratford (naturally fluoridated).

The data indicate that there is no observable difference in caries reducing effect between a mechanically fluoridated water supply and a naturally fluoridated water supply. This beneficial effect of water fluoridation extends at least until the eighteenth year of life.

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Faculty of Dentistry,
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Have you experienced any adverse reactions to drugs administered to patients? If so, please report the circumstances to the Food and Drug Directorate of the Department of National Health and Welfare. The Directorate has distributed forms like the one illustrated here to physicians and dentists throughout Canada as part of a campaign to expose any potentially hazardous drugs at the earliest opportunity.

IN CONFIDENCE		
To: The Medical Division Food and Drug Directorate Tunney's Pasture, Ottawa		For FDD use
NOTIFICATION OF SUSPECTED TOXICITY AND SIDE EFFECTS OF DRUGS		
Drug		
How long has patient been on the drug?		
Daily dosage		
Suspected reaction (brief description of suspected toxic effects or side effects)		
Age of patient		
Sex		
Name of patient (for purposes of linking with other reports only)		
From: Name_____		
Street_____		
City_____ Prov._____		
Signed_____ Date_____		
F. & D. 123		

Survey of pulp therapy techniques for vital deciduous teeth

A survey of 11 North American dental schools and one dental dispensary reveals that formocresol is the most popular pulp dressing material for pulpotomy in vital deciduous teeth. There is a trend toward substitution of pulp capping by pulpotomy when pulp exposure occurs in vital deciduous teeth.

■

Le formocrésol s'est révélé être le coiffage le plus populaire pour la pulpotomie des dents primaires vivantes, lors d'une expertise tenue dans 11 facultés dentaires de l'Amérique du Nord et un dispensaire dentaire. On remarque une tendance vers la substitution du coiffage de pulpe par la pulpotomie quand on rencontre, dans une dent primaire vitale, une chambre pulpaire exposée.

This report was presented by B. A. Hink at a combined dental staff conference of the Winnipeg and Manitoba health departments, September 1, 1964.

*Staff member, Dental Public Health Division, City of Winnipeg Department of Public Health.

Dentists who treat children are constantly faced with the possibility of pulp exposure in vital deciduous teeth. The following methods of treatment are available in that event:

1. Pulp capping: A pulp dressing material is placed over the exposed portion of the pulp, and the tooth is filled either at the same appointment or at a subsequent appointment.

2. Pulpotomy: The coronal portion of the pulp is removed and a pulp dressing is placed over the remaining pulp stump. The tooth is filled at the same appointment or subsequently.

3. Partial pulpectomy: The coronal portion of the pulp and as much of the radicular portion of the pulp as possible is removed. A pulp dressing is applied and the tooth is filled at the same appointment or subsequently.

4. Complete pulpectomy: The entire pulp is removed and the root canal filled with an inert material. This technique is not routinely successful in deciduous teeth and it is usually more time consuming than the other techniques.

5. Extraction of the tooth.

6. Indirect pulp capping: Some dentists

TABLE 1 Survey of pulp therapy techniques for vital deciduous teeth advocated by 11 dental schools and one dental dispensary.

Institution	Treatment advocated for pinpoint carious exposure encountered during cavity preparation of vital deciduous tooth	Dressing applied after pulpotomy (removal of vital coronal portion of pulp)
A	Pulpotomy	Formocresol
B	Pulpotomy	Formocresol
C	Pulpotomy	Formocresol
D	Pulpotomy	Formocresol
E	1. Pulpotomy 2. Partial pulpectomy if pulp is hyperaemic. Oxpara paste	Formocresol for pulpotomy
F	1. Pulpotomy if exposure occurs on axial surface 2. Pulp capping with calcium hydroxide if exposure occurs on occlusal surface	Formocresol for pulpotomy
G	1. Advocate indirect pulp capping with zinc oxide-eugenol to avoid exposure 2. Pulp capping with calcium hydroxide for accidental exposure	Formocresol or calcium hydroxide for pulpotomy
H	1. Advocate some indirect pulp capping with zinc oxide-eugenol to avoid pulp exposure 2. Pulp capping with calcium hydroxide	Formocresol for pulpotomy
I	Pulp capping with calcium hydroxide	Calcium hydroxide for pulpotomy
J	Pulp capping with calcium hydroxide	Calcium hydroxide for pulpotomy
K	1. Advocate indirect pulp capping with zinc oxide-eugenol to avoid exposure 2. Pulp capping with zinc oxide-eugenol	Zinc oxide-eugenol for pulpotomy
L	Pulp capping with calcium hydroxide	Pulpotomy not done

avoid exposures by leaving some carious material temporarily unexcavated in deep cavities. A zinc oxide-eugenol temporary dressing is placed and the tooth is filled at a subsequent appointment.

The average practitioner clings rather tenaciously to what he has learned as an undergraduate. His treatment, therefore, reflects the concepts and techniques that were in vogue at his dental school at the time of his graduation. Endodontic treatment methods for deciduous teeth vary somewhat from one school to another and

with passage of time. We therefore polled 11 North American university dental schools and the Eastman Dental Dispensary at Rochester, New York in order to determine endodontic techniques for deciduous teeth currently being advocated by each institution. Respondents were asked to indicate (1) the technique recommended for management of deciduous pulp exposures and (2) the materials advocated for placement in contact with pulp tissue when a pulpotomy is performed.

RESULTS

The results of this survey are shown in Table 1. Replies were received from the paedodontic departments of the following university dental schools: Alberta, California, Dalhousie, Indiana, Manitoba, McGill, Michigan, Southern California, Temple, Toronto, and Washington; also from the Eastman Dental Dispensary. To preserve anonymity, the participating institutions are randomly identified by alphabetic letters. These bear no relationship to the order in which their names appear in the preceding list.

There was complete unanimity on the importance of careful diagnosis and evaluation of the tooth being treated.

DISCUSSION

Over the years the pendulum has swung back and forth between the calcium hydroxide and formocresol pulpotomy techniques for deciduous teeth. Calcium hydroxide was formerly recommended as being more biologically acceptable than formocresol preparations. Recent research, however, indicates that, when formocresol pulp therapy is performed, the 'fixed' pulpal tissue is gradually removed by phagocytes and eventually entirely re-

placed by the gradual apical ingrowth of vital granulation tissue.¹

We observed that University E modified its instruction during the past five years from the teaching of the calcium hydroxide technique to the formocresol pulpotomy technique. University H has likewise switched from calcium hydroxide to formocresol for pulpotomy dressings.

CONCLUSIONS

Although teaching opinion is still mainly divided between calcium hydroxide and formocresol pulpotomy techniques, the results of this survey indicate that the formocresol technique has gained acceptance as the better of the two techniques. Clinical and laboratory evidence favours this development. A further advance is the trend toward substitution of pulpotomy in place of pulp capping when pulp exposure occurs in vital deciduous teeth.

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102 Newton Avenue

"Change cannot be brought to a halt. To try to halt change is to court an explosion. The constructive way of dealing with the inevitability of change is to make changes voluntarily before they impose themselves. The earlier we take action, the wider will be our range of choice." — *Arnold Toynbee*

Swab test for dental caries activity: an epidemiological study

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Fergus and S. L. Honey,‡ D.D.S., D.D.P.H., Welland, Ontario

The potential clinical value of a modification of the Snyder test was evaluated in 150 kindergarten children over a four year period. The oral flora was sampled by swabbing the buccal surfaces of the teeth with a cotton tipped medical applicator which was incubated in a semifluid Snyder type medium. Test readings were made by a colour comparator or pH meter.

The validity of this swab test, especially when related to previous caries treatment, is such that the difference in probability of developing new cari-

ous lesions in the following year is tenfold. Experimental error and the inter and intra day variation of the test results for individuals are reported. Some preliminary results concerning the nature of the organisms involved are also described.

The swab test has practical clinical value in the dental office and in dental public health programs. The method as a whole provides a protocol for further epidemiological studies of the oral flora.

The 'swab test' is a simplified version of the Snyder test^{1,2} and as such provides a measure of the aciduric, acidogenic micro-organisms in the mouth. Various versions of this test have been applied to public health and clinical dentistry.³⁻⁵ The present version was developed to overcome the difficulty of getting saliva samples

from very young children who do not understand the idea of expectorating into a bottle to supply saliva for a lactobacillus count or a Snyder test. This simplified technique also eliminates the need to melt the culture medium before use and the requirement for sterilized pipettes. It has proved very useful for use in public health and in dental offices not equipped for rigorous bacteriological work. Swab test results are quickly obtained by an electric pH meter or a colour comparator (Lovebond, with bromo cresol green scale applicators) and the meaning of the colour change from blue to yellow as the pH declines is easily grasped by the patient.

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TABLE 1 Preparation of swab test medium.

Ingredients	Per cent by weight	Per 1 litre batch
Difco Tryptone	2.0%	20 Gm.
Dextrose	2.0%	20 Gm.
Sodium chloride	0.5%	5 Gm.
Agar	0.25%	2.5 Gm.
Distilled water to 950 ml.		
Bromo cresol green	.02 Gm. or 50 ml. of .04% aqueous solution	
Lactic acid to yield pH of 5.0		1.8 ml. approx.
Sodium hydroxide if needed to correct pH		

1. Bring ingredients to a boil briefly and set out a few vials of clear medium for colour comparator controls before adding indicator.
2. Adjust pH of medium to 5.0 by adding small amounts of lactic acid.
3. Dispense 2½ ml. in one dram vials using an automatic syringe.
4. Autoclave for five minutes at 15 lbs. pressure with caps slightly loosened. Tighten caps after they have cooled sufficiently to permit handling.
5. Label vials high up near cap so as not to interfere with the view of the liquid. Label clear vials with batch number so proper control can be used with the colour comparator.
6. Store in refrigerator if not required for a long period. Without refrigeration, shelf life at room temperature is some months.
7. If new glass vials are used they must be moistened with tap water, autoclaved and rinsed with distilled water to destroy strong alkali of new glass.

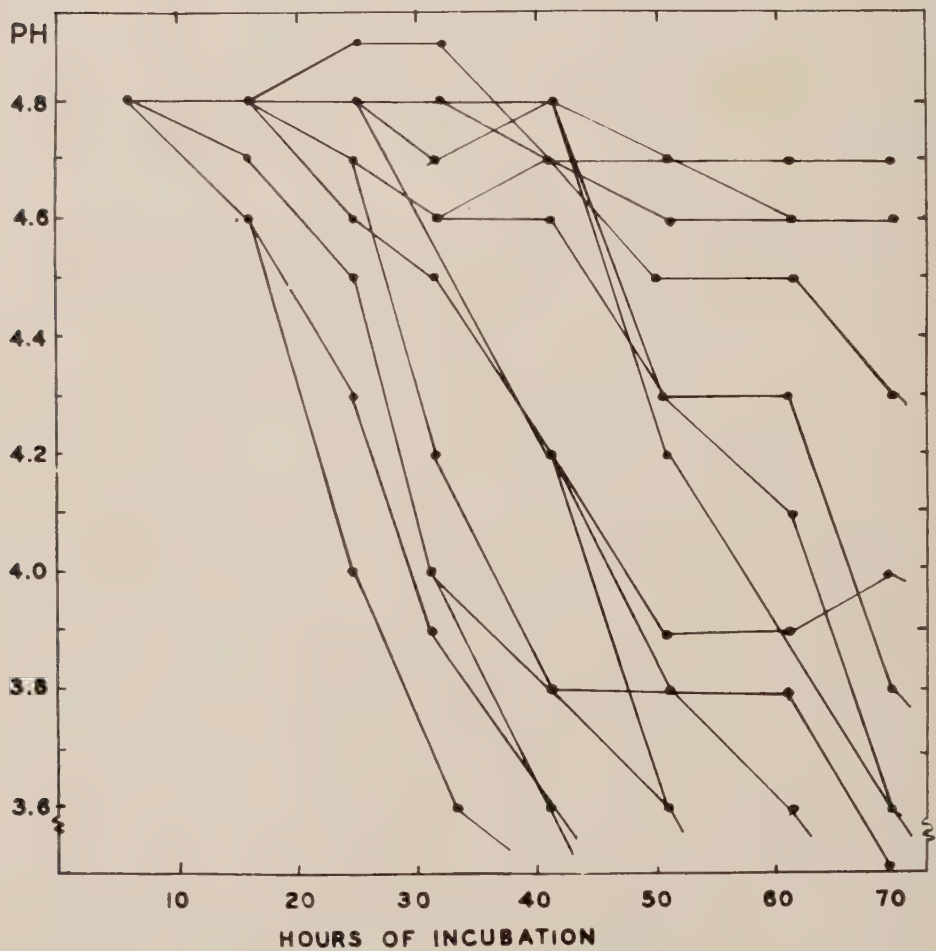


FIGURE 1 Change in pH of a group of swab tests over an incubation

Probably the most important feature of the test apart from simplicity is its potential for communicating to the patient the importance of reducing the intake of sweet foods between meals — a caries control measure of great importance as demonstrated by the Vipeholm Study.⁶ This paper describes the technique of the test, the preparation of the culture medium, some microbiological aspects of the test, the validity and reliability of the test, and an experiment using a detergent mouthwash designed to influence the oral flora.)

TECHNIQUE

Two and one half cc. of the semi-fluid culture medium (Table 1) are dispensed in one dram vials with screw-type bakelite caps. The technique of taking the sample is as follows:

1. Stroke the buccal gingival areas of the teeth, in each of the four quadrants, once from back to front with a sterile cotton tipped medical applicator.

2. Remove the cap from the vial of medium which should be at 37° C. or at least at room temperature and insert the applicator to the bottom of the vial. Rotate the applicator about five times, then raise and break off the stick against the lip of the vial. (Sticks will break easily if applicators are sterilized by slight browning with dry heat in an oven.) Replace the cap and tighten firmly taking care not to contaminate the part of the applicator that is to stay in the vial, the lip of the vial, or the inside of the cap.

3. As soon as possible place vial upright in an incubator at 37° C. and leave for 48 hours.

4. After incubation make pH reading by a colour comparator or electric pH meter.

DEVELOPMENT OF THE CULTURE MEDIUM

There is some evidence that the main acid producer in the oral flora is a streptococcus.⁷ If the results are to correlate with caries activity, however, the essential feature of this test seems to be the

use of a medium which is selective for aciduric organisms. This may be done by using inhibitors or by using an initially lowered pH. Rogosa type medium could be used successfully for this test if the amount of agar were reduced and colour indicator was added.⁸ Other tests which measure the amount of carbon dioxide produced in a buffered medium at an initial neutral pH have proved unsuccessful.⁹

In arriving at an optimal time of 48 hours for the duration of the test, 15 vials were measured colorimetrically at intervals of approximately eight hours (Figure 1). The tubes which eventually showed low pH were apparent after one day, but more clearly distinguishable by the second day. The exact time is not very critical and a variation of several hours in the 48 hour incubation time makes only minor differences in the general clinical interpretation.

Some experimentation was done as to the method of making the readings. The bromo cresol green indicator is very important to the visual educational aid aspect of the test since the dramatic change in colour is easily grasped by the patient. We therefore consider its continued use well worthwhile. On the other hand, the colorimetric pH readings are not very reliable at the low end of the scale. In some cases confusion also results due to bleaching of the dye (without accompanying pH change) by organisms apparently not related to dental caries. Some vials were therefore read by means of a photo-electric meter to measure the turbidity of the culture. The correlations between the turbidity readings and the colorimetric readings were fairly high but it seemed clear that pH change was more pertinent to dental caries activity.

MICROBIOLOGICAL ASPECTS

Table 2 gives the bacteriological and fungal results of a random selection of vials listed in order of the colorimetric pH reading. This analysis was carried out on vials three days old supplied to the Ontario Provincial Government Laboratory. Although no quantitation of the

TABLE 2 Microbiological analysis* of pairs of swab tests according to pH reading and previous caries experience.

Pair	pH	Previous def surfaces	Bacteria	Fungus
1	4.8 4.7	0	Lactobacilli No organisms grown	Candida albicans
2	4.8 4.7	0	No organisms grown	Candida albicans
3	4.8 4.6	0	No organisms grown	Candida albicans
4	4.8 4.6	6	Micrococcus tetragenus	Candida albicans
5	4.8 4.6	6	Lactobacilli Lactobacilli	Candida albicans Candida albicans
6	4.8 4.6	3	No organisms grown No organisms grown	
7	4.4 4.5	7	Lactobacilli Lactobacilli	Candida albicans Candida albicans
8	4.4 4.6	12	Diphtheroids Lactobacilli	Candida albicans
9	4.6 4.7	9	Lactobacilli Lactobacilli	Candida albicans
10	4.6 4.5	0	Lactobacilli Lactobacilli	Candida albicans A non-pathogenic fungus
11	4.4 4.6	11	Diphtheroids, lactobacilli Lactobacilli	Candida albicans Candida albicans
12	4.3 4.6	2	Lactobacilli Lactobacilli	Candida albicans Candida albicans
13	4.4 4.6	10	Lactobacilli Lactobacilli	Candida albicans Candida albicans
14	4.2 4.4	9	Lactobacilli Lactobacilli	Candida albicans Candida albicans

*Analysis carried out by Ontario Provincial Government Laboratory.

microbiological flora was involved, growth was more frequent from vials with the lower pH readings and these mainly involved lactobacilli and *Candida albicans*. The swab test medium is a selective medium because of its initial low pH, simple ingredients, and semi-aerobic incubation condition. The organisms found in the vials after incubation therefore must have been present prior to the test and capable of surviving the test conditions. This is confirmed by Table 3 which demonstrates the ability of various organisms to produce and survive acid in glucose broth and the swab test medium.¹⁰ It is fairly clear that lactobacilli and yeast are the only two of the group tested that can thrive well upon inoculation into the

swab test medium. Of interest also are the gram-negative cocci and rods which raised the pH.

As a further crude exploration of the nature of the organisms involved, smears were made from several cultures and gram-stained. Table 4 shows the changes in quantity of organisms in the smears according to the pH of the source culture. Table 5 shows the relative frequency of occurrence of various morphological types. Gram-positive rods are the most frequent organisms in low pH cultures and gram-negative cocci predominate in the high pH vials which do have growth. In the latter cultures the smears rarely revealed any growth but the tubes showing some slight growth frequently had pure cul-

TABLE 3 Average pH produced by the different types of micro-organisms in glucose and swab test media after 48 hours.

Type of organism	Number of organisms	Medium	
		Glucose pH 7.2	Swab test pH 4.8
Staphylococcus	39	4.63	4.72
Streptococcus	12	4.21	4.66
Lactobacilli	22	4.49	4.50
Yeast	11	6.30	4.41
Large cocci	8	4.86	4.74
Other gram-positive cocci	4	5.45	4.77
Gram-negative cocci	19	6.17	4.90
Gram-negative rods	9	5.32	5.10

Source: Paszfi, 1960.¹⁰

TABLE 4 Quantity of micro-organisms apparent in smears and morphological type of micro-organism most prevalent according to pH of swab test for 155 grade one children in Thorold, Ontario.

pH	Quantity of growth						Most prevalent organism form in smear	Total vials	
	None or scanty		Moderate		Heavy			%	No. of vials
	%	No. of vials	%	No. of vials	%	No. of vials			
4.7 and over	53.6	15	32.1	9	14.3	4	Gram-negative cocci	100	28
4.5 - 4.6	90.5	19	9.5	2			Gram-negative cocci	100	21
4.3 - 4.4	14.3	2	78.6	11	7.1	1	Gram-negative rods and fusiforms	100	14
4.1 - 4.2	7.1	1	50.0	7	42.9	6	Gram-positive rods in short chains	100	14
3.9 - 4.0	20.0	3	60.0	9	20.0	3	Gram-positive rods, single	100	15
3.8 and under	1.6	1	55.6	35	42.9	27	Gram-positive rods, single	100	63

tures of undefined gram-negative cocci. Whether the presence of this organism has some role in the initiation of the caries process, whether its presence may be diagnostic of the onset of the caries process, or whether it may be antagonistic should be carefully studied. One other phenomenon worth mentioning was the observation that a few individuals' tests produced alkali instead of acid. Indeed, tubes have been observed where the pH rose to as high as 6.0. These individuals are also caries-free and the possibility exists that the particular organisms involved may have some protective role.

RELIABILITY

Replicated swabbing of 37 children, age six years, within one minute of each other revealed no significant average difference between the first and second test. Assuming there was no real difference between the pairs of tests, the average standard deviation for experimental error ($\sqrt{\sum d^2/2N}$) was .14 pH units. Hence, 95 per cent of the time a single test is taken, it can be assumed that the test reading is within $\pm .28$ pH units of the true reading for the particular patient at the time the test

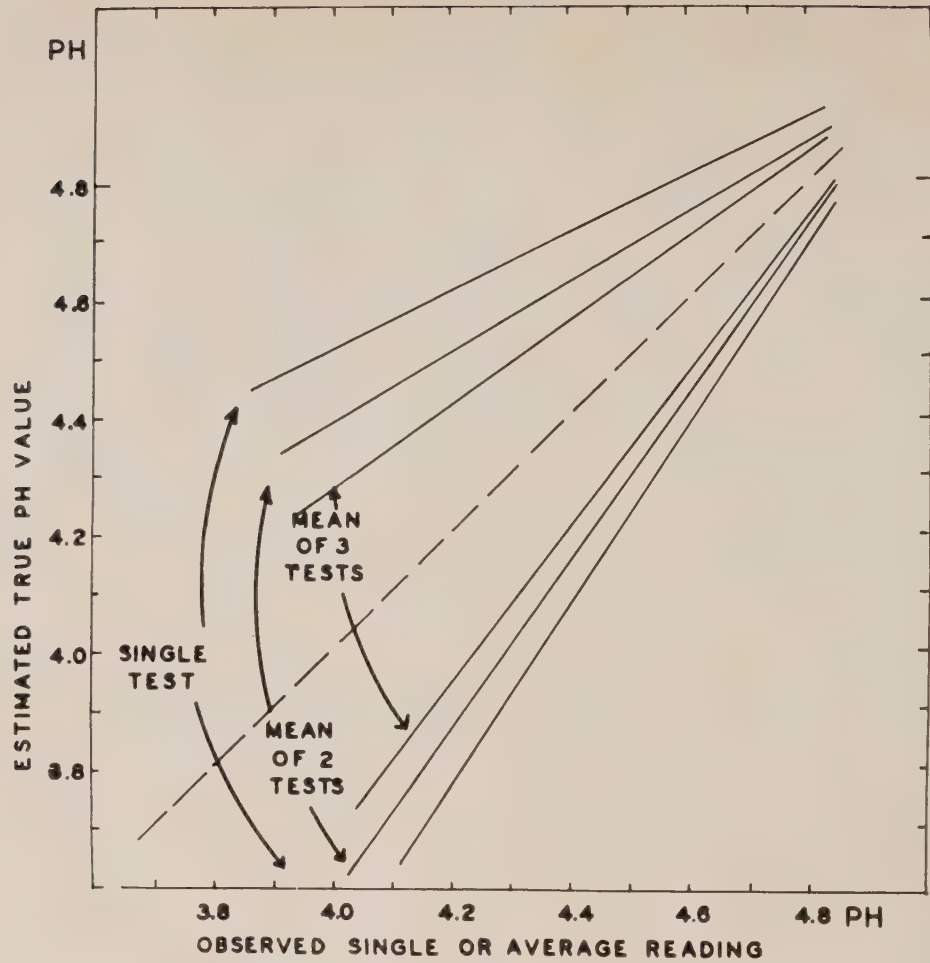


FIGURE 2 Ninety-five per cent confidence limit for single swab test or averages of two or three tests on the same day.

was taken. The magnitude of experimental error attached to swab tests does, however, increase with the acidity of the test and a more practical interpretation of the range in which the true value would fall can be obtained from Figure 2 which is based on Table 6. From the diagram which describes confidence limits for single, double, and triple test averages, it can be seen that if pH 4.5 is taken arbitrarily as a reasonable division point between serious caries activity and little or no activity, a single swab test of 4.68 would be clearly higher than 4.5, and a test of 4.18 would be clearly lower than 4.5. Between these two values 4.18 and 4.68 one cannot be statistically sure the test was not a low result from a true high score or a high result from a true low score. Thus, when middle range swab tests are obtained, the only recourse is to take additional tests. For averages of the two or three tests, the confidence limits

are somewhat narrower as shown by the inner ranges of Figure 2.

VARIATION ACCORDING TO TIME OF DAY

Table 6 shows the results of a series of tests for 14 grade one boys over a period of a day and a half. There is no obvious trend or significant change in the group average according to time of day even though on the second morning four fruit drops were given to each of the children in the half hour between the first two morning tests. The slightly higher average 4.70 obtained at 9.15 a.m. on the first morning may stem from the fact that the culture medium was transported by car in freezing weather and had not warmed completely before use. As can be seen in Figure 2, the variation among the day's tests for individuals with average high pH tests is about half of that for individuals having scores of middle range.

TABLE 5 Relative frequency of morphological types of micro-organisms by pH of swab test for 155 grade one children in Thorold, Ontario.

pH	Gram Positive Rods		Small Gram Negative Rods or Sticks	Yeast	Gram Negative Cocci	Gram Positive Rods in Long Chains	Very Large Single Gram Positive Rods	Fusiform Gram Negative	Gram Positive Cocci		Gram Positive Cockle-burs	All Forms Total
	Singles	Chains							Singles	Chains		
4.9 & over	6.3% (1)		6.3% (1)		31.3 (5)		6.3% (1)	25.0% (4)		18.8% (3)	6.3% (1)	100% (16)
4.7-4.8	2.3% (1)		7.0% (3)	7.0% (3)	44.2% (19)			18.6% (8)	4.7% (2)	16.3% (7)		100% (43)
4.5-4.6	12.9% (4)	3.2% (1)	12.9% (4)	3.2% (1)	32.3% (10)	3.2% (1)		12.9% (4)	6.5% (2)	12.9% (4)		100% (31)
4.3-4.4	6.5% (2)	6.5% (2)	16.1% (5)	9.7% (3)	12.9% (4)	3.2% (1)	6.5% (2)	16.1% (5)		16.1% (5)	6.5% (2)	100% (31)
4.1-4.2	15.9% (7)	20.5% (9)	15.9% (7)	11.4% (5)	15.9% (7)	4.5% (2)	4.5% (2)	2.3% (1)	4.5% (2)	4.5% (2)		100% (44)
3.9-4.0	25.0% (8)	21.9% (7)	18.8% (6)	6.3% (2)	12.5% (4)	6.3% (2)	6.3% (2)	3.1% (1)				100% (32)
3.8 & under	22.6% (37)	18.3% (30)	16.5% (27)	10.4% (17)	9.8% (16)	8.5% (14)	6.1% (10)	4.9% (8)	1.8% (3)	1.2% (2)		100% (164)
Total	(60)	(49)	(53)	(31)	(65)	(20)	(17)	(31)	(9)	(23)	(3)	(361)

() Number of times organism was observed.

TABLE 6 Variations in swab test readings for 14 grade one boys over one and a half days.

Child No.	FIRST DAY READINGS								SECOND DAY READINGS								
	9:15 AM	10:30 AM	11:45 AM	1:30 PM	2:30 PM	3:30 PM	Individuals' Summary		9:15 AM		9:45 AM	Duplicates	10:30 AM	11:30 AM	Duplicates	Individuals' Summary	
							$\bar{X}$	S.D.								$\bar{X}$	S.D.
1	.8	.8	.8	.8	.8	.8	4.80	--	.8	GIVEN FOUR FRUIT-DROP CANDIES EACH	.8	.7	.8	.8	.7	4.77	0.08
2	.8	.8	.8	.8	.8	.8	4.80	--	.8		.8	.7	.8	.8	.6	4.75	0.08
3	.7	.8	.7	.8	.8	.8	4.77	0.08	.8		.8	.6	.8	.8	.6	4.73	0.11
4	.8	.7	.7	.8	.8	.8	4.77	0.08	.8		.8	.5	.8	.8	.6	4.72	0.15
5	.7	.7	.8	.8	.8	.7	4.75	0.05	.6		.4	.5	.7	.8	.6	4.60	0.14
6	.7	.8	.3	.8	.8	.7	4.68	0.20	.8		.8	.6	.8	.8	.7	4.75	0.08
7	.6	.7	.7	.6	.8	.8	4.65	0.10	.4		.4	.6	.6	.6	.5	4.52	0.11
8	.7	.5	.3	.6	.7	.5	4.55	0.15	.4		.6	.6	.5	.3	.6	4.50	0.13
9	.6	.3	.5	.6	.5	.7	4.53	0.14	.8		.4	.6	.5	.6	.7	4.60	0.14
10	.8	.3	.5	.3	.5	.5	4.48	0.19	.4		.6	.5	.4	.4	.8	4.52	0.17
11	.8	.3	.3	.3	.4	.5	4.43	0.14	.4		.3	.5	.5	.4	.6	4.45	0.10
12	.5	.3	.1	.5	.3	.4	4.35	0.15	.4		.4	.6	.4	.4	.6	4.47	0.12
13	.8	.1	.0	.3	.5	.3	4.33	0.29	.0		.2	.2	.3	.2	.4	4.22	0.14
14	.3	.0	.3	.1	.3	.3	4.20	0.15	.7		.6	.7	.6	.4	.5	4.58	0.13
$\bar{X}$	4.70	4.51	4.49	4.58	4.63	4.64			4.58		4.56	4.56	4.61	4.58	4.61		
S.D.	0.16	0.28	0.28	0.25	0.21	0.20			0.25		0.22	0.13	0.18	0.23	0.10		

* Readings on body of Table were coded by subtracting 4.0

The variation in the very acid tubes is quite great but also of little practical importance to clinical usage. Part of this variation comes from the fact that at low pH bromo cresol green is reaching the limit of its colour change.

Other tests (Figure 3) were run up to six times a day for several days. Two of the series over a maximum of 15 days for the same persons are crudely plotted to represent the daytime of each 24-hour period. For the 15-day series, 47 tests were made. The between days and within days mean squares were .026 and .027 respectively, which is a little more than

the experimental error variation. The graph does show that certain days' readings are atypical, but on the whole, the individuals maintain about the same test activity.

VALIDITY OF TEST

Table 7 relates the mean carious surface increments for 150 kindergarten children over the subsequent four-year period following the swab test, according to previous number of decayed, missing and

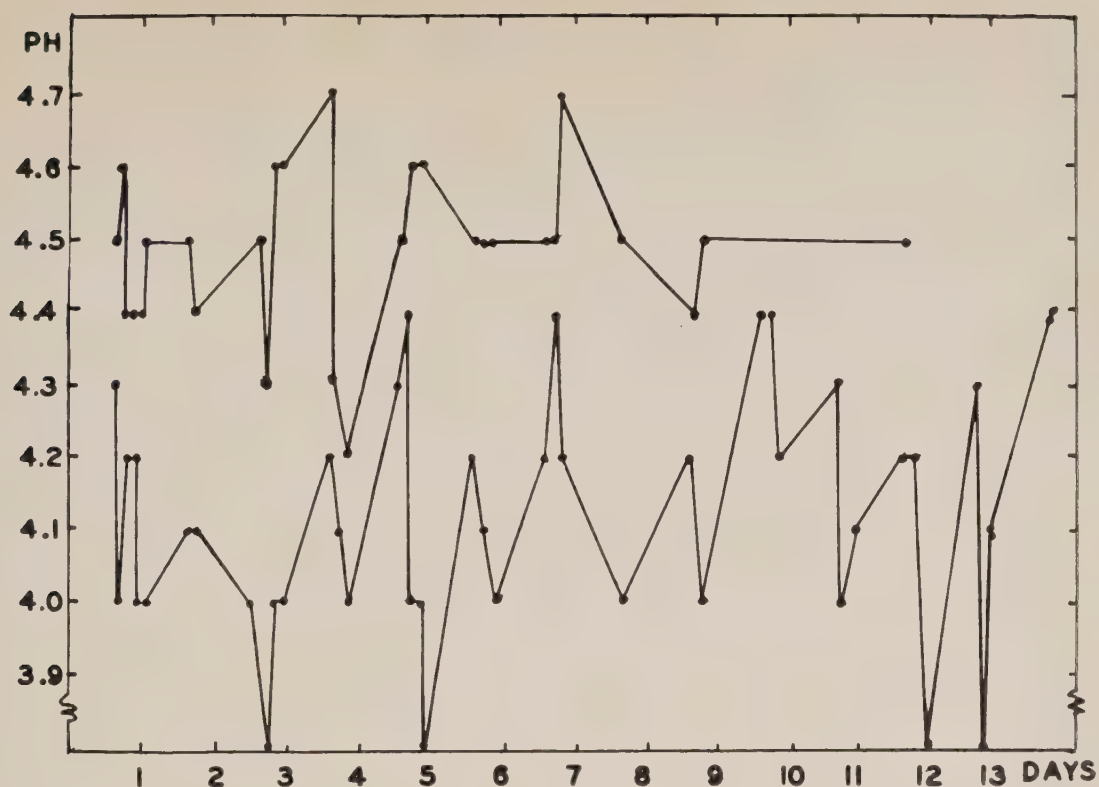


FIGURE 3 Daily variations for two cases over a two week period of swab testing.

TABLE 7 Mean carious surface increments on deciduous teeth of 150 kindergarten children in Thorold, Ontario, according to previous caries and swab test results at the beginning of the study period.

Time	Previous def	pH of initial swab test							
		4.1 or under		4.2- 4.3		4.4 - 4.5		4.6 or over	
		Increment	Sample size	Increment	Sample size	Increment	Sample size	Increment	Sample size
1 year	0	4.8	5	3.1	19	1.1	19	0.2	22
	1 - 2	3.9	10	4.5	4	1.3	6		
	3 - 4	4.5	13	6.3	6	2.7	3		
	5 - 6	3.1	8	4.3	9				
	7 - 8	4.3	7	7.0	3				
	9 & over	5.7	11	5.2	5				
2 years	0	8.6	5	4.8	19	2.0	19	1.0	24
	1 - 2	7.3	10	7.5	4	2.8	6		
	3 - 4	6.2	13	8.0	4	3.3	3		
	5 - 6	6.1	8	7.1	9				
	7 - 8	5.6	7	9.0	3				
	9 & over	8.0	11	7.6	5				
3 years	0	8.8	5	6.8	19	2.5	20	1.4	20
	1 - 2	7.4	10	7.3	4	3.8	6		
	3 - 4	6.6	13	5.7	6	3.3	3		
	5 - 6	6.9	8	5.5	8				
	7 - 8	6.3	6	6.3	3				
	9 & over	7.2	10	4.6	5				

filled deciduous teeth. For children with no previous carious lesions, the difference in caries increments according to pH of the swab test is probably at least tenfold over one year and remains sixfold even after four years. For those with high previous caries experience, the test value depreciates since virtually no individuals with high past caries experience are inactive according to the swab test. Thus, the interpretation is dependent on knowledge of the previous caries experience. Although the swab test presumably reflects the current state of the oral flora, the fact that the correlation lasts over four years is understandable for the majority of cases where no control measures appreciably modify the flora in this period. The explanation of relatively high caries increments for individuals with initially inactive swab tests must be that they become active during the test period, and indeed, this was observable from tests done at six month intervals.

EFFECT OF DIET AND MOUTHWASH ON SWAB TEST

An experiment was set up among 56 female first year university students to test the influence of a detergent mouthwash (Table 8) used four times a day and elimination of sweet foods between

meals on the swab test. The students were divided by random sampling into four groups assigned treatments as follows: (1) diet plus mouthwash, (2) diet only, (3) mouthwash only, and (4) control. Swab tests were taken at the initiation of the experiment and at the close, ten days later. The results are given in Table 9. Analysis of co-variances is necessary because there is a very strong regression ($b = .785$) for change in pH on initial pH. The difference in the adjusted means is statistically highly significant and the trend is such that the combined treatments reduced the swab test activity. This difference is not great in the practical sense, but the experiment was of very short duration. Therefore one may justifiably assume that over a longer period changes of public health significance would be achieved.

DISCUSSION

Thousands of tests have been done during and since the time of development of the Snyder test modification described above. These tests were carried out in connection with the counselling of parents in dental health programs in Ontario. Although the test is at present largely empirical, it does appear to be of practical value as a visual aid in persuading pa-

TABLE 8 Composition of detergent mouthwash.

Ingredient	Quantity
Oil of peppermint	400 min.
Oil of wintergreen	400 min.
Oil of cloves	200 min.
Tween 80 (½ %)	765 min.
Glycerin	80 oz.
Alcohol 95%	120 oz.
Sodium oleate (2 %)	5 oz. 6 drs. 40 grains
Sodium lauroyl sulphate (1 %)	2 oz. 7 drs. 20 grains
Carmine solution	200 min.
Ext. vanilla	10 oz.
Sodium saccharine	800 grains
Hot water	120 oz.
Fruit colouring red	1 oz.

TABLE 9 Analysis of results of clinical trial of detergent mouthwash and reduction of sweet foods between meals for 56 female first-year university students.

Statistic	Control	Diet only	Mouthwash only	Diet and mouthwash
Sample	16	12	15	13
Initial pH	4.20	4.12	4.30	4.08
Crude mean change S.E.	+0.27	+0.28	+0.21	+0.47
Adjusted mean change	+ .29	+ .23	+ .30	+ .39
Error of estimate				

Analysis of co-variance							
Source	D.F.	Sums of squares for:			Errors of estimate		
		Change	Products	Initial pH	D.F.	Sum of squares	Mean square
Total	55	5.96	—4.24	5.37	54	2.61	
Groups	3	0.42	+0.11	0.38			
Withing groups	52	5.54	—4.35	4.99	51	1.75	0.034
Adjusted means					3	0.86	0.287
F ratio adjusted means 8.44, P<.01							

tients to undertake preventive measures. This can be made particularly clear when the test is used in conjunction with the 'Dental Caries Susceptibility Computer' developed by Grainger and Nikiforuk.¹¹ This is simply a movable chart which quickly shows the relative past caries experience of the individual compared to the population at the same age. For persons in the caries resistant class (lowest decile) who may currently show no clinical lesions, it is particularly valuable to have a test which indicates the probability of future lesions without waiting a year to see whether such lesions actually ensue. Obviously, a patient with no clinical lesions who has a swab test indicating caries activity should adopt control measures immediately.

In our experience the bacterial flora which determines the swab test results is not easily modified. This seems to be particularly true for adult patients with considerable past caries experience and old restorations and bridgework in varying stages of disrepair. As with the use of the lactobacillus test and Jay's diet,³ there must be either a very rigorous

dietary restriction for a few weeks or prolonged restriction of sweet foods, particularly between meals. The adjunctive use of a detergent mouthwash to literally wash away the plaques could also be of clinical significance. This aspect is being investigated further.

In counselling patients the most pertinent idea to teach is that the swab test can demonstrate the presence of a significantly large number of organisms capable of producing and surviving acid conditions in the mouth by using fermentable carbohydrate as their necessary nutrient. Since this oral flora unavoidably produces acid and etches the teeth whenever it is supplied with fermentable carbohydrate, the common sense thing is to avoid supplying carbohydrate to the organisms as much as possible. Thus, persons with an active caries test should never take sweet foods between meals. They should also rinse or brush the teeth immediately after eating to arrest caries activity as quickly as possible after meals. These instructions in no way imply that the use of topical agents such as fluorides and the restora-

tion of open lesions may be neglected.

The objection has been raised that lactobacillus tests do not accurately predict the number of lesions to be developed, and hence, have no clinical value.¹² There are, however, other factors to consider besides the oral flora. Moreover, chance plays an important role in determining the number of lesions to be developed.¹³ The implication that there is a much lower probability of caries developing in the patient with the high pH swab test seems to be quite a valid reason for its use as a guide in prescribing for caries control.

We believe that more epidemiological research into the nature of the oral flora for caries-free versus caries-active individuals is needed. The intriguing finding that in certain individuals the swab test actually undergoes an increase in pH is surely worthy of extensive investigation. Also, the observation that use of fermentable carbohydrate food is followed by change in the flora and the fact that only the most rigorous dietary control reduces the lactobacillus count supports the contention that the aetiology of dental caries entails a special type of infection.⁷ The possibility (raised by the mouthwash experiment) of influencing the oral flora by washing away the plaque is equally worthy of further study as a clinical treatment.

SUMMARY

The potential clinical value of a modification of the Snyder test was evaluated in 150 kindergarten children over a four year period. The oral flora was sampled by swabbing the buccal surfaces of the teeth with a cotton tipped medical applicator which was incubated in a semifluid Snyder type medium. Test readings were made by a colour comparator or pH meter.

The validity of this swab test, especially when related to previous caries increment, is such that the difference in probability of developing new carious lesions in the following year is tenfold. Experimental error and the inter and intra day variation of the test results for individuals are reported. Some preliminary results concerning the nature of the organisms involved are also described.

The swab test has practical clinical value in the dental office and in dental public health programs. The method as a whole provides a protocol for further epidemiological studies of the oral flora.

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124 Edward Street

Some observations on British and North American dental education

Renewed interest in the evaluation of foreign dental educational systems and in the admission of foreign graduates to dental practice in Canada has prompted us to re-examine certain aspects of dental education in the countries of the English-speaking world. That Canada and the United States exhibit very distinct differences in their approach to dental education as compared to Britain, Australia, New Zealand and South Africa is self-evident. These dissimilarities were clearly outlined in an article by G. H. Sperber published in 1963.¹ According to Dr. Sperber, these distinctions are rooted in history and, to a lesser degree, in the differing social environments.

While dental education in both instances is university-based, the historical affinity between British dentistry and medicine is reflected in the close association of British dental educational institutions with 'parent' medical faculties. In contrast, North American dental institutions exist as independent university faculties or schools. This contrast is further illustrated by the term 'dental hospital' which often designates British teaching institutions whereas their North American counterparts are called 'dental clinics.' This difference in terminology is not accidental. British dental hospitals historically originate from institutions established for the relief of pain among the indigent—a philosophy which remains a part of their tradition. North American dental clinics, on the other hand, exist primarily for the benefit of the students—an attitude which can again be traced to the original proprietary dental schools which were established for the education of students rather than for treatment of the public. Accordingly, patients in dental clinics are primarily selected for their 'teaching value.'

The potential effect upon the attitude of students of this difference in the quality and quantity of patient material gives rise to some highly interesting speculation. Rushton, for example, contends that the dental hospital with its ever-open doors inculcates in students a strong sense of social responsibility and a high standard of professional relationship with patients. The student learns that much of his treatment is not in his own immediate self-interest, but merely a part of the social service which his hospital supplies. But Rushton also admits that this educational system does not utilize the student's time to greatest advantage, for "students perform excessive repetition of certain procedures [in contrast to] . . . many American schools [where] the requirement for the number of procedures . . . is by our standards very small indeed, though the quality of work demanded may be very high."²

Utilization of dental hospitals as a source of teaching material produces yet another differentiating phenomenon. The work of these institutions is largely carried out by students. Since many dental hospitals operate on a 24 hour basis throughout the year, provision must be made for the year-round presence of students. The British type curriculum therefore tends to be longer than its

North American counterpart and the British student, at least in his clinical years, has less liberal vacations than his North American confrère. In fact, the three to four months' annual vacation of the North American course adds up to almost a year less study time than the final four years of the British course. Both systems have their benefits as well as drawbacks. Prolonged North American vacations can be utilized to replenish income and pursue undergraduate research or other dentally related activities within the university or in public health services. The British plan, on the other hand, promotes year-round utilization of clinical facilities.

The course work of the British student can be crowded into the four years required for the Licence in Dental Surgery (L.D.S.) granted by the Royal Colleges of Surgeons. This licentiate only exists in the United Kingdom. Though not a university degree, it enables the holder to practise dentistry. Attainment of a university degree requires a minimum of five years' study. The entire course is regarded as undergraduate as reflected by the granting of a baccalaureate degree (B.D.S.). This contrasts to the North American quasi-graduate dental course, requiring two to four years' prior undergraduate university education, and terminating with the doctorate degree (D.D.S.).

British universities that offer graduate education require a dental baccalaureate degree as a minimum qualification for candidature. Such graduate programs lead to an intermediate degree of Master of Dental Surgery (M.D.S.) and to a full doctorate degree (D.D.S. or D.D.Sc.). But the British style D.D.S. requires at least 10 years of study; consequently, few D.D.S. degrees are granted.

Most practising British dentists hold either the B.D.S. degree or the L.D.S. diploma, both of which are registrable qualifications. Still other diplomas are awarded by British universities and certain Royal Colleges, such as the Higher Dental Diploma (H.D.D.), Diplomas in Dental Orthopaedics (D.D.O.) and in Orthodontics (D. Orth.), the Diplomas in Public Dentistry (D.P.D.), Anaesthesia (D.A.), and Maxillofacial and Oral Surgery (Dip. M.F.O.S.). In addition, certain Royal Colleges grant a Fellowship in Dental Surgery (F.D.S.), indicating specialist education in maxillofacial and oral surgery.

Recognition of advanced academic standing in the United States and Canada is generally confined to the granting of the Master of Science (M.S. or M.Sc.D.) or Doctor of Philosophy (Ph.D.) degrees. Specialization is one of the more distinctive features of North American dental practice. Yet Canada and the United States diverge in the manner whereby recognition is accorded to university-based specialty education. In the Republic the pattern of recognition is by way of fellowships awarded by examination boards of the specialist societies. The Dominion on the other hand displays considerable diversity in the specialties actually recognized by different provincial licensing boards. The recent creation of the Royal College of Dentists of Canada as a national specialty qualifying and examining authority will likely foster greater uniformity in this important field.

Differences of socio-economic background as well as divergent historical and traditional evolution of the dental profession have conferred distinct and relatively unalterable features upon dental practice in each of the two major divisions of the English-speaking world. Despite these apparent handicaps, Sperber contends that there is much scope for co-operation between the two educational systems. He presents a convincing argument for reciprocal recognition of university-granted dental degrees as a means of facilitating increased interchange of scientific thinking in keeping with increased exchange of professional personnel between English-speaking countries. He concludes with an eloquent plea for combining the best of both systems to establish a uniformly high level of dental education and practice.

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The Association

C.D.A. Statement on Hall Report Presented to Health Minister

Canadian Dental Association President P. S. Christie, accompanied by Past President Rémy Langlois, President-elect J. P. Coupland and Secretary W. G. McIntosh, met with Miss Judy LaMarsh, Minister of National Health and Welfare, in Ottawa June 23. The meeting had been requested by the Canadian Dental Association to make an official presentation to the minister of the C.D.A. statement on the dental recommendations of the Royal Commission on Health Services. Also present at the meeting was R. A. Connor, dental consultant to the Department of National Health and Welfare.

Secretary McIntosh explained that the statement had been adopted by the Board of Governors on May 28. He emphasized that it was national in scope. President Christie then reviewed salient points, mentioning the areas of agreement between the Association and the Commission, and those where alternate suggestions have been made by the C.D.A.

Miss LaMarsh stated that the federal government is under great pressure to

introduce a treatment program of some kind. So far no dental decisions have been made that could have been affected by the C.D.A. statement. The profession will be consulted where possible before any such decisions are reached in the future, the minister added.



Canadian Science Fair winner Verna Anne Thompson of Milton, Ontario, (above) receives her CDA award from H. I. Bolker, president of the Canadian Science Fair's Council. Robert Paul Brunelle of High Prairie, Alberta, receives a similar award (below).

Canada and the Provinces

Science Fair Winners Honoured

Sixty-eight finalists from 26 regional science fairs across the nation participated in the fourth Canada-Wide Science Fair held at the University of Manitoba, Winnipeg, May 6-8. Winners of the two Canadian Dental Association awards were Verna Anne Thompson of Milton, Ontario, who is a grade 12 student at Nelson High School in Burlington, Ontario, and Robert Paul Brunelle who is a grade 10 student at Prairie River High School, High Prairie, Alberta.

The Canadian Dental Association is one of the sponsors of the Canadian Science Fair's council. This year W. H. Feasby of Winnipeg represented the Association on the judging committee.

Dental Laboratory Fees Rise in Ontario

An upward adjustment of between 20 and 30 per cent in the charges by dental laboratories became effective on June 15 in Ontario. The rising cost of materials and equipment, demands for higher wages and increased benefits by employees of dental laboratories and interest on the part of certain dental technicians in legislation governing dental mechanics in two western provinces were cited by the Dental Laboratories Association of Ontario as some of the reasons for this adjustment.

Dental Assistant Course in Three Toronto High Schools

The experimental dental assistants' courses now operating in two Toronto area high schools (West Hill Collegiate Institute, Scarborough; Etobicoke Collegiate Institute, Etobicoke) will be supplemented in September by a third program at Lorne Park Collegiate Institute, Toronto Township, according to the June 1965 *R.C.D.S. Newsletter*. No further courses of this type will be introduced until the results of these three programs are evaluated at the conclusion of a five year term (1963-68).

Dental assisting is offered in grades 11 and 12 of the four year science, technology and trades program. The course is open to 24 students each year who have successfully completed grades 9 and 10 in any branch of the Ontario secondary school program. Priority is given to students with an average of 66 per cent or better.

School for Dental Technicians Planned in Ontario

An agreement has been made between the Royal College of Dental Surgeons of Ontario and the Technological and Trades Training Branch of the Ontario Department of Education for the establishment of a training school for dental laboratory technicians in Ontario. Lack of suitable accommodation has delayed the establishment of this school.

International Items

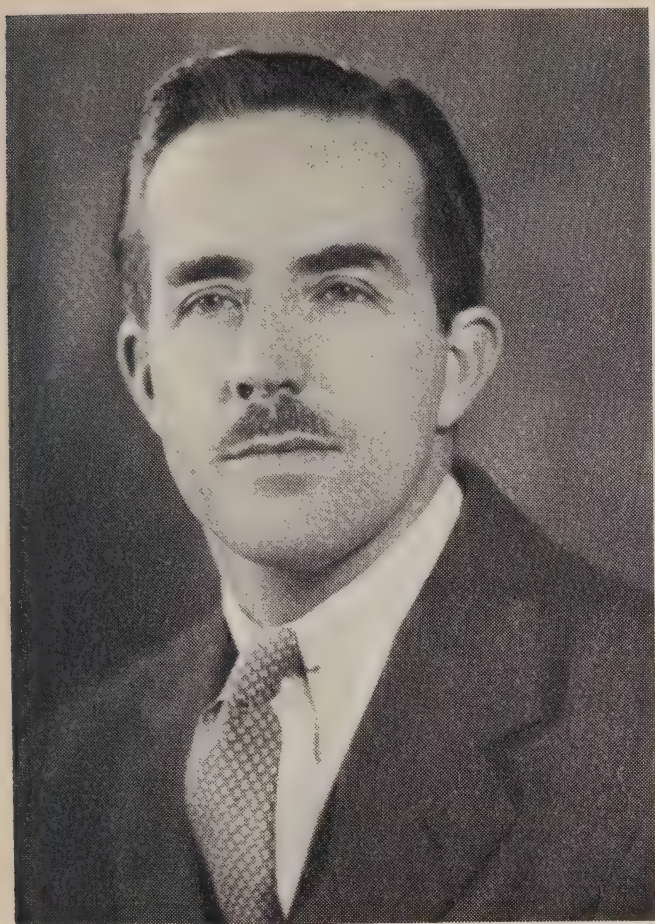
Dr. Williams Honoured by Fauchard Academy

C. H. M. Williams of Toronto has been awarded the Dr. Elmer S. Best Memorial Award by the Pierre Fauchard Academy of Dentistry. This award is given annually to a distinguished individual outside the continental United States who has made outstanding contributions to dentistry.

The presentation was made July 13 by the Hon. W. W. Butterworth, U. S. ambassador to Canada, at the United States Embassy in Ottawa.

Dr. Williams is professor and head of the Department of Periodontics, University of Toronto, and Canadian Dental Association representative to the National Cancer Institute of Canada. Dr. Williams is the first Canadian recipient of the Best Memorial Award since it was instituted in 1961.

The Pierre Fauchard Academy was organized in 1936 to disseminate advances in the theory and techniques of dental



C. H. M. Williams

science. The Academy derives its name from a celebrated eighteenth century Paris dentist who is commonly regarded as the "father of modern dentistry."

Australian State Recognizes Canadian Graduates

The Dental Board of the State of New South Wales in Australia has decided to extend immediate recognition to graduates of all fully accredited Canadian and American dental schools. The action entitles graduates from these universities to immediate registration in New South Wales without further examination. The only requirements are evidence of good character and proof that the holder is or was entitled to be registered or to practise in the province or state where his degree was obtained. Reciprocity of registration is not involved in this action.

In a letter acknowledging this action, Canadian Dental Association Secretary W. G. McIntosh congratulated the Dental Board of New South Wales "for their forward step in recognizing out-of-country accredited schools," and added that this

action would be brought to the attention of the C.D.A. Council on Education which administers the Canadian accreditation program.

Australian Dental Congress Planned

The 18th Australian Dental Congress will be held in Melbourne, Australia, February 27 to March 3, 1967.

1966 ORCA Congress in Italy

Canadian dentists have been invited to participate in next year's ORCA congress at Perugia, Italy, June 3 - 9. ORCA is the abbreviated name for the European Organization for Research on Fluorine and Dental Caries Prevention. Principal theme of the meeting will be a symposium on carbohydrates in relation to nutrition, economic standards and dental caries. Canadian dentists who wish to present scientific papers or annotations or who desire further information are asked to write to Professor A. Seppilli, Istituto d'Igiene della Università, Casella Postale No. 150, Perugia, Italy.

Postgraduate Courses Offered in New York

The First District Dental Society will offer a variety of short postgraduate refresher courses during the fall months. Further information concerning these courses may be obtained from J. J. Adelson, First District Dental Society, Statler Hilton Hotel, 7th Avenue and West 33rd Street, New York 1, New York, U.S.A.

Dental Organizations

International College Inducts Nine Canadians

Nine new members were inducted as fellows of the International College of Dentists at the annual meeting and convocation of the Canadian section of the College in Quebec City May 29. The



Seen at the annual convocation of the Canadian Section, International College of Dentists, held in Quebec City May 29, are (standing l. to r.) Henri Brouillet, Montreal; W. W. Philp, Toronto; M. G. Boyes, Toronto; W. P. Munsie, Vancouver; C. H. Moses, Toronto; L. I. Duffy, Charlottetown; (seated l. to r.) R. E. Dagg, Montreal; J. B. Macdonald, president of the University of British Columbia, Vancouver; J. A. Fortier, Montreal, installing officer; and Louis Bernier, Quebec City.

new fellows are: Louis Bernier of Quebec City; Henri Brouillet and R. E. Dagg of Montreal; M. G. Boyes, C. H. Moses and W. W. Philp of Toronto; L. I. Duffy of Charlottetown; and W. P. Munsie of Vancouver. An honorary fellowship was conferred on J. B. Macdonald, president of the University of British Columbia.

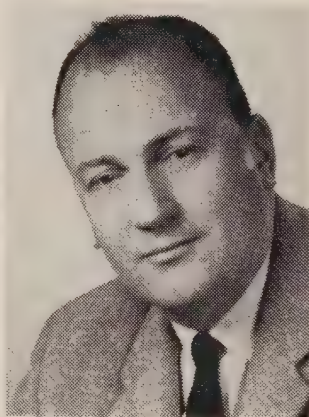
International guests at the convocation were L. M. Ennis, president of the College-at-Large, and F. A. Pierson, president of the American Dental Association.

The Board of Regents elected as president J. P. McGuigan of Halifax. He succeeds Gustave Ratté of Quebec City. Also named as officers were D. M. Tanner of Ottawa, president-elect; T. H. Johns of Victoria, vice-president; H. R. Skilling of Toronto, treasurer; C. L. Strachan of London, editor; and E. A. White of Toronto, registrar. C. M. Whitworth of Vancouver is regent for District 1. J. A. Sherman of Toronto is deputy regent for District 5. W. J. Johnston of Montreal is deputy regent for District 6.

Orthodontists Meet in Quebec City

Forty-five orthodontists from various parts of Canada were present in Quebec City for the annual meeting of the Canadian Society of Orthodontists, May 30

to June 2. The meeting was held in conjunction with the national convention of the Canadian Dental Association.



W. O. Mulligan

H. I. Margolis of Boston presented the annual George Wellington Grieve Memorial Lecture ("The General Practitioner's Responsibilities, Opportunities, and Privileges in Clinical Orthodontics"). Dr. Margolis also addressed members on "Harnessing Growth in Orthodontics, Utilizing the ACCO and Saddle Arch." Other essayists were Z. Mézl, Université de Montréal, speaking on "Tissue Changes in Orthodontic Treatment," and R. A. Rocke of the Kesling and Rocke Group, Westville, Indiana. Dr. Rocke's subject was "The Begg Technique."

W. O. Mulligan of Saint John, New Brunswick, was elected president of the

society. Other officers are R. D. Leuty, Toronto, president-elect; A. M. Hayes, Vancouver, vice-president; and J. J. Schachter, Saskatoon, secretary.

Dr. Boisclair Heads Quebec Provincial Assn.

Guy Boisclair of Trois-Rivières was elected president of L'Association Dentaire de la Province de Québec at the annual meeting of the Quebec provincial group June 2. He succeeds J. G. A. Grenon of Quebec City. Also elected were Vincent Dontigny, secretary, and Conrad Godin, archivist. Both are from Trois-Rivières.

The St. Maurice and District Dental Society will be the host organization for the 1966 annual meeting of the Quebec provincial association at the Manoir Richelieu, Murray Bay.

Montreal Club Examines C.D.A.

The May meeting of the Montreal Dental Club was devoted to a consideration of several current legislative and organizational matters of concern to the profession.

G. M. Dundass described Quebec Bill 155 (Dental Technicians Act). This act has been modified, but its wording has resulted in controversy over the dentist's role in the training of technicians, Dr. Dundass explained.

Certain policies of the Canadian Dental Association were reviewed by H. T. Oliver who commented on economic concepts used in determining the value of services and the relationship between these concepts and a fixed fee schedule.

J. M. Chamard described the response of the C.D.A. to the Report of the Royal Commission on Health Services.

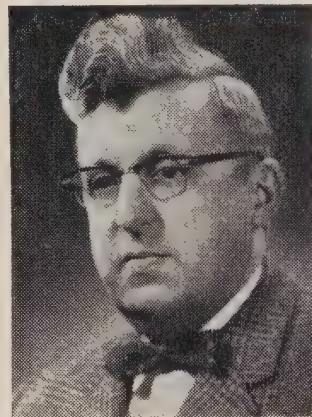
The relationship between provincial organizations and the C.D.A. was the subject of a discussion led by P. L. Samis that culminated in adoption of the following resolution: "That the College of Dental Surgeons of the Province of Quebec reconsider the present status of the individual members of the Canadian Dental Association with a view toward

perhaps putting membership on a voluntary basis."

Many of the members present voiced the opinion that the existing structure and organization of the C.D.A. does not adequately reflect or fulfil the needs of practising dentists.

Dr. Pentz Installed as Nova Scotia President

On June 19 dentists from all parts of Nova Scotia witnessed the installation of D. G. Pentz, Halifax, as president of the Nova Scotia Dental Association. He succeeds J. R. Fraser of Chester, Nova Scotia. Elected with Dr. Pentz at the 75th annual meeting of the N.S.D.A. in Halifax were: J. E. Merritt, Halifax, president-elect; N. J. Layton, Truro, vice-president; and W. H. Macneil, Halifax, secretary. D. C. Eaton of Halifax replaced Canadian Dental Association President P. S. Christie as Nova Scotia's delegate to the C.D.A. Board of Governors.



D. G. Pentz

Elected for a two year term as N.S.D.A. representative to the Provincial Dental Board of Nova Scotia were: L. G. Israel of Sydney, R. H. Taylor of Wolfville, and D. C. Eaton of Halifax.

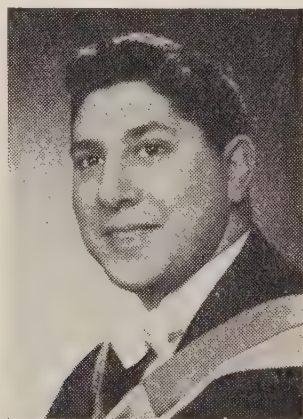
Highlight of the N.S.D.A. business meeting was a report from Dean J. D. McLean of the Faculty of Dentistry, Dalhousie University, which stressed the need for expanded teaching facilities to accommodate larger classes of dental students and dental hygiene students applying for enrolment.

In another report, W. C. King, provincial director of dental services, announced the inauguration of four \$1,200 bursaries

for dental students. Each recipient will have to work for the Nova Scotia Department of Health or practise in a rural area for an equivalent length of time. Health education and topical fluoride applications will be stepped up this year by the provincial department, Dr. King observed, noting that his division will increase its staff of dental hygienists from eight to 12. Dr. King also stressed the continuing need for dental practitioners in rural areas of the province.

Dr. Zed Heads Saint John Society

Saint John, New Brunswick, dentists installed L. G. Zed as president of the Saint John Dental Society at the group's closing meeting in June. Dr. Zed succeeds M. N. Brown. Other officers are H. W. MacDonald, vice-president; Monica Mooney, treasurer; and Mitchell Levine, secretary.



L. G. Zed

Dr. Coupland is President of R.C.D.S.

J. P. Coupland of Ottawa was elected president of the Royal College of Dental

Surgeons of Ontario at the annual meeting of the Board of Directors April 12-15. He succeeds W. G. Bruce of Kincardine. J. D. Purves of Toronto was elected vice-president.

The composition of the Board of Directors is as follows: J. P. Coupland, District 1; R. C. Honey of Peterborough, District 2; A. B. Sutherland of Sudbury, District 3; H. M. Jolley of Toronto, District 4; W. G. Bruce, District 5; T. H. Wachna of Windsor, District 6; R. Michell of Kitchener, District 7; and E. J. Rajczak of Hamilton, District 8. J. D. Purves is the representative of the Faculty of Dentistry, University of Toronto.

Ottawa Society Elects

H. E. McIntosh was recently elected president of the Ottawa Dental Society. Other officers of the executive are H. F. Biewald, vice-president, and Lionel Metrick, secretary.

Quinte Society Observes R.C.D.C. Anniversary

Dentists from the central Lake Ontario area recently gathered at Trenton when the Bay of Quinte Dental Society held its regular April meeting at the R.C.A.F. Station, Trenton. Col. A. T. Roger, commanding officer of No. 13 Dental Company, Royal Canadian Dental Corps (Reserve) introduced guest clinician Maj. D. H. Newell, of the U. S. Army Dental Corps. Maj. Newell, from the Walter Reed Medical Centre in Washington, is presently on staff at the R.C.D.C. School,



Attending a recent meeting of the Bay of Quinte (Ontario) Dental Society are (l. to r.) Col. A. T. Roger, Commanding Officer of No. 13 Dental Company R.C.D.C., Trenton; R. F. Evans of Picton, president of the Bay of Quinte Dental Society; and Maj. D. H. Newell, U. S. Army Dental Corps, stationed at the R.C.D.C. School, Camp Borden, Ontario.



British Columbia dentist of the year, W. G. Newby of Chilliwack (l.) receives his award from H. G. Pettapiece, past president of the British Columbia Dental Association, during the recent B.C.D.A. convention.

Camp Borden, Ontario, under an exchange posting. Maj. Newell lectured on diagnosis in periodontics and periodontal treatment involving the flap technique. Following dinner at the Officer's Mess, members of the Quinte society joined with Lt.-Col. N. A. Butcher in a toast to mark the 50th anniversary of the Dental Corps.

Essex County Society Installs A. W. Lampe

A. W. Lampe of Windsor, Ontario, has been elected president of the Essex County Dental Society. He succeeds F. J. Furlong, also of Windsor. Other officers for 1965-66 are E. J. Paslawsky of Leamington, vice-president; E. H. Mazak of Windsor, treasurer; and P. J. Courey, also of Windsor, secretary.

Dr. Waller Heads B.C. Association

Prince George dentist D. E. Waller is the newly elected president of the British Columbia Dental Association. He succeeds H. G. Pettapiece of Parksville. Sheppard

Margolese of Vancouver was chosen to succeed Dr. Waller in 1966.

Other officers are William Alto, Vancouver, treasurer; and Margaret MacLean, Vancouver, secretary. Named as directors were M. W. Balanko, R. E. D. Munn and A. E. Swanson of Vancouver, R. G. Donaldson of Chilliwack, G. B. Cranstoun of Victoria, V. M. Erickson of Dawson Creek, R. W. Davis of North Burnaby, W. H. Letham of Salmon Arm, G. C. Walkey of Duncan, and J. F. Mykietyn of Trail.

B. C. Names Dentist of the Year

This year the British Columbia Dental Association held a "Dentist of the Year" contest to encourage members to take an active interest in community affairs. Local dental societies proposed such excellent candidates that the committee in charge had difficulty in selecting a winner. Eventually the choice narrowed down to W. G. Newby of Chilliwack.

Dr. Newby has been in general practice for 40 years and has been active in the Arabian Horse Association of Western Canada, the Kinsmen Club, the Agricultural Association, the Athletic Associa-

tion, the Board of Trade, the Rotary Club and the United Church. He is a past president of his local dental society, and for two years has served on the Council of the College of Dental Surgeons of British Columbia.

Canadian Dental Schools

Two Appointed to B.C. Faculty

Two new appointments to the Faculty of Dentistry of the University of British Columbia have been announced by President J. B. Macdonald. They are David Gardner, currently completing his master of science studies at the University of Indiana, and T. J. Harrop who will complete Ph.D. studies at the State University of Iowa this summer.

Both are Canadian citizens and have been appointed to the rank of assistant professor. Their appointments were effective July 1.

Dr. Gardner, an expert in oral pathology, graduated in 1958 from the University of Toronto before enrolling at the University of Indiana for graduate studies.

Dr. Harrop, who practised in Campbell River, British Columbia, for seven years, is a graduate of Glasgow and Dalhousie Universities. He will teach in the Department of Prosthodontics.

U.B.C. Dental Enrolment May be Cut

The University of British Columbia may have to cut its initial enrolment of dental students from 40 to 20 because bids for the university's new dental building were higher than expected.

Officials had estimated total cost of the building at about \$4 million. They decided to cut down on facilities when four bids received were much larger.

A \$4.4 million contract was awarded for construction of the building, leaving parts of the inside unfinished to reduce costs.

Dean S. Wah Leung reportedly said

there will be no cut-back in the dental school program. It will be easy to modify the building as funds become subsequently available.

Fall Postgraduate Courses in Periodontics, Endodontics and Gold Inlays at Alberta U.

Short postgraduate courses in periodontics (September 1-4 and October 2), endodontics (October 13-16), and cast gold inlays (November 11-13) will be offered by the Faculty of Dentistry, University of Alberta, this fall. These courses are designed to help general practitioners.

The course in periodontics comprises lectures and demonstrations on periodontal examination and diagnosis, techniques of instrumentation, root planing and curettage, and various surgical procedures including gingivoplasty, gingivectomy, osseous and mucogingival surgery, as well as techniques of oral physiotherapy.

The endodontic course includes illustrated lectures on treatment planning, armamentarium, diseases of periapical tissue, drug therapy, radiology, bacteriology, and rationale of treatment.

The final course will deal with properties and value of cast gold as a restorative material, use of rubber dam, cavity preparations for class II, III, IV and V restorations, use of pins for retention, impression techniques and pouring of dies.

All of these are participation courses. Tuition fee for each course is \$100. Enquiries and requests for application forms should be directed to the clinical director, Faculty of Dentistry, University of Alberta, Edmonton, Alberta.

Dr. Castaldi Transfers from Alberta to Manitoba U.

C. R. Castaldi, head of the University of Alberta's Department of Paedodontics, has been appointed professor of operative dentistry at the University of Manitoba.

Dr. Castaldi will leave the children's department at the University of Alberta which he has headed for the last seven years to take up his new position September 1.

Federal Grant Aids Montréal U. Clinic

The Department of National Health and Welfare has approved an \$86,500 federal grant to the Faculty of Dental Surgery, Université de Montréal.

The grant will be used for the operation of a dental health clinic for children of needy families in the Montreal area. Dental students will participate in the program which includes dental care as well as health education.

Extension Course for Dental Assistants in Montreal

A new evening course for new as well as experienced dental assistants will be launched through the Université de Montréal Extension Department this fall. Modelled on a pilot program operated by the Société dentaire de Montréal for the past two years, the new course will offer two terms of theoretical and chairside instruction leading to a certificate of competence for candidates who successfully complete the course. The first term is devoted to 35 hours of theoretical instruction. During the second term candidates will receive 40 hours of chairside instruction in the dental clinic of the Université de Montréal.

Jacques Bélanger, clinician at the university's Faculty of Dental Surgery, will direct the program. He will be assisted by Claude Madore who is in charge of refresher courses at the faculty. Doctors Bélanger and Madore hope that the program to start this September will mark the beginning of other and more extensive training programs for dental assistants in their city. They have expressed considerable interest in experimental high school programs in progress in three Toronto suburbs where grade 11 and 12 students of the four year Science, Technology and Trades Branch are trained as dental assistants.

Last November Dr. Madore helped to form a dental nurses and assistants association as a provincial chapter of the Canadian Dental Nurses and Assistants Association. Now Doctors Bélanger and Madore look forward to the eventual creation of a placement service for graduates from their new training program.

Toronto Experiment Shows Hygienists Can Be Trained for Wider Range of Duties

Two thirds of student dental hygienists at the University of Toronto have demonstrated an aptitude for further training to perform a wider variety of technical procedures beyond those currently performed by dental hygienists. This conclusion emerges from an experiment undertaken at the request of the Board of Directors of the Royal College of Dental Surgeons of Ontario. The study, which ran from 1961 to 1964, attempted to answer these questions:

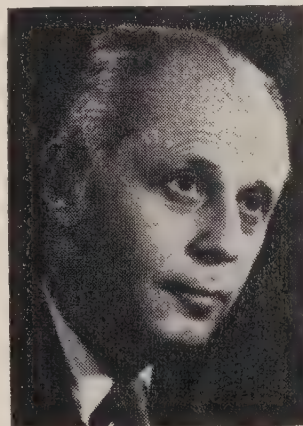
1. Can dental hygienists be successfully trained for duties that demand a wider variety of digital performances than at present?

2. Can each new duty be learned in a period of time similar to that required of the dental students?

3. Will the work done by hygienists be comparable in quality to similar work done by dental students?

The tests used in this study were not in any way meant to indicate the areas in which duties of the dental hygienist should be expanded, but rather to provide a reasonable assessment of her aptitude.

Prof. Selye is Box Memorial Lecturer at Toronto, Oct. 18



Hans Selye

Professor Hans Selye of Montreal will deliver the fourth annual Harold Keith Box Memorial Lecture at 8.15 p.m. in the auditorium of the Faculty of Dentistry, University of Toronto. The title of this year's lecture is "Calciophylaxis." Dr. Selye, a world-renowned investigator and authority on 'stress,' is director of the

Institut de Médecine et de Chirurgie Experimentales, Université de Montréal.

A descendant of a distinguished Austrian medical family, Dr. Selye was born in Vienna and studied in Prague, Czechoslovakia, Paris and Rome. In 1932 he came to McGill University, Montreal, where he was appointed assistant professor of biochemistry in 1934 and associate professor of histology in 1941. Since 1945 he has served in his present capacity as director of the Institute of Experimental Medicine and Surgery at the Université de Montréal.

U.W.O. Dental School Officially Open in '67

The University of Western Ontario will have a capacity for 268 dental students, W. J. Dunn, dean of the Faculty of Dentistry, told an alumni audience at Ingersoll, Ontario, recently. The school is expected to be ready for occupancy in September 1967, but Dr. Dunn hopes to have a small pilot dental class in the fall of 1966.

The new school will make postgraduate refresher courses more readily available to southwestern Ontario dentists.

Dalhousie Graduates Honour Dean MacLean

Graduating dental students at Dalhousie University this year decided to pay a tribute with a difference to their dean and their school.

They presented J. D. McLean, dean of the Faculty of Dentistry, with a beautifully illuminated scroll and a pledge by each graduate to contribute \$25 on the anniversary of graduation to a special fund for the improvement of dental education at Dalhousie University for 10 years.

The idea for the special fund came from M. M. Sullivan, a dental graduate from Australia. The fund is believed to be the first of its kind in any Canadian university.

The scroll, prepared by Mrs. A. Borden Haverstock, wife of a Halifax dentist who graduated from Dalhousie University,

was presented to Dr. McLean by Dr. Sullivan on behalf of his classmates.

Royal Canadian Dental Corps

Col. Millar Attends F.D.I. Meeting

Col. I. A. L. Millar, Deputy Director of Dental Services for the Canadian Forces, conducted officer cadets in the Second Practical Phase Training of the Dental Officer Subsidization Plan on a tour of installations at No. 1 Air Division, R.C.A.F., Europe, June 10-25. Col. Millar then travelled on to Vienna, Austria, where he presented a paper, "Formation of Military Dental Health Teams," at the 53rd annual meeting of the Fédération Dentaire Internationale.

Col. Kearney at Western Canada Convention

Col. B. P. Kearney, Command Dental Officer, Western Command, represented the Director General of Dental Services at the Western Canada Dental Society Convention, Banff, Alberta, June 16-19.

Australian Officer Visits R.C.D.C. Installations

Lt. M. H. Dowsett, dental officer of the Royal Australian Navy, visited the Dental Directorate at Ottawa and the Royal Canadian Dental Corps School at Camp Borden, Ontario, June 5-9, en route home after 15 months in England on an exchange posting.

Three Officers Promoted

The following dental officers were recently promoted: Lt.-Col. G. C. Evans to colonel, Maj. A. W. Brusso to lieutenant-colonel, and Capt. Y. Kamachi to major.

Col. Evans was born and raised in southern Alberta. On graduation from the University of Alberta in 1944 he joined the Canadian Dental Corps and served

with the Royal Canadian Air Force on the west coast until his release in July 1946. Since re-enlisting in the R.C.D.C. August 1947 he has served with the Royal Canadian Navy both ashore and afloat, with the 25th Canadian Field Dental Unit in Korea, and at the R.C.D.C. School where he became chief instructor. In July 1960 Col. Evans began three years' service as commanding officer of No. 4 Field Dental Company, Brigade Group, Germany. On his return to Canada he was employed at the Dental Directorate, Canadian Forces Headquarters, Ottawa. Col. Evans now takes up an appointment as Command Dental Officer, Western Command and commanding officer of No. 11 Company R.C.D.C. (R) with headquarters in Edmonton.

Lt.-Col. Brusso of Didsbury, Alberta, joined the Canadian Dental Corps as a private in June 1940. During World War II he was commissioned and served overseas in the United Kingdom, North Africa, Italy and northwest Europe. Since the war he has held appointments as quartermaster in several of the dental companies and as commanding officer of No. 1 Dental Equipment Depot. Since 1960 he has been the Senior Procurement Officer at the Directorate in Ottawa.

Maj. Kamachi of New Westminster, British Columbia, graduated from Dalhousie University, Halifax, in 1960. Since that time he has served in No. 11 Dental Company, Edmonton. He is presently employed with No. 35 Field Dental Unit, No. 1 Air Division, R.C.A.F., Europe.

18 New Officers Join Corps

A cordial welcome is extended to the following personnel on their recent graduation and promotion to captain:

Captains A. F. Brothers, R. F. Cooper, E. F. Foley, G. R. Nye, H. S. Wood, G. S. Zwicker from Dalhousie University, Halifax;

Captains J. A. Boucher, H. J. Nadeau from the Université de Montréal;

Capt. D. N. Charles from McGill University;

Captains Z. Tukums, J. C. Wamberra from the University of Toronto;

Captains D. G. Jones, J. D. McCallum

from the University of Manitoba; and

Captains R. B. Andrews, J. J. Anderson, B. B. Berezan, W. G. Ebert, F. H. Harreman from the University of Alberta, Edmonton.

Two Officers Leave the Corps

Captains **W. J. Froese** of headquarters at Camp Petawawa, Ontario, and **V. D. Kvedaras** of headquarters at No. 13 Dental Company, Trenton, Ontario, have completed their tour of duty with the Royal Canadian Dental Corps and were released on June 1.

Col. Leman Retires



Col. A. C. Leman

Col. A. C. Leman C.D., senior consultant for the Royal Canadian Dental Corps, retired from the Canadian Army in June. A native Torontonion, Col. Leman graduated from the University of Toronto in 1938. He practised in Toronto until he was commissioned in the Canadian Dental Corps in the spring of 1940. Col. Leman served in the United Kingdom and northwest Europe from 1942 to 1945. Returning to Canada in August 1945, he entered private practice in Toronto until August 1947, when he again enlisted in the R.C.D.C. Col. Leman has since served in various locations throughout Canada and Europe. In 1955 he was appointed commanding officer of No. 35 Field Dental Unit, No. 1 Air Division, R.C.A.F., Europe. In 1959-63 he was Command Dental Officer, Central Command and commanding officer of No. 13 Dental Company,

R.C.A.F. Station, Trenton, Ontario. He completed his service career as senior consultant for the R.C.D.C. in the Directorate of Dental Services of the Canadian Forces at Ottawa. Col. Leman and his family plan to settle in London, Ontario.

Col. Drewry, Former DDGDS, Dies

F. R. Drewry, a former deputy director general of dental services, died June 20 at his home in Cobourg, Ontario. Col. Drewry was born at Warkworth, Ontario. A graduate of the Royal College of Dental Surgeons of Ontario, he practised in Cobourg until 1940 when he joined the Canadian Dental Corps. Col. Drewry served overseas with the R.C.A.F. and Base Units in the United Kingdom. In July 1942 he was promoted to lieutenant-colonel. He returned to Canada in December of that year and was appointed commanding officer of No. 40 Company, Canadian Dental Corps.

Upon formation of the peace time Regular Force in October 1946 Col. Drewry became Command Dental Officer and commanding officer of No. 11 Dental Company, Royal Canadian Dental Corps, with headquarters in Edmonton. He subsequently became Command Dental Officer and commanding officer of No. 13 Dental Company in Trenton, Ontario, a post he held from June 1949 until March 1951. At this time he was posted to Army Headquarters as Deputy Director of Dental Services. In May 1953 he was appointed Deputy Director General of Dental Services and promoted to colonel. Col. Drewry served in this post until his retirement in October 1956.

Canadian Officer Wins U. S. Award

Maj. J. J. N. Wright of Exshaw, Alberta, has been awarded the U. S. Army Dental Corps Scroll for the highest academic achievement in a 10-month course conducted at the United States Army Institute of Dental Research, Walter Reed Army Medical Center, Washington. Maj. Wright attended the course in "Advanced

Theory and Science of Dental Practice" from August 1964 to June 1965.

Economics

Average 1963 Fees for Dental Services Quoted

The average fees of Canadian dentists responding to the 1963 Survey of Dental Practice were:

Dental prophylaxis (supragingival scaling and polishing) \$5.78;

Two surface amalgam filling \$6.45;

Silicate or acrylic filling \$5.83;

Single extraction (uncomplicated, with local anaesthetic) \$4.91;

Two surface gold inlay \$27.64;

One complete upper denture \$82.84.

When tabulation and analysis of the survey are completed by the CDA Bureau of Economic Research, fees will be available by province, city size, age of practitioner, and so forth.

Prepaid Dental Care Requested in B.C. Hydro Contract

A prepaid dental care plan for about 1,200 electrical workers may be worked out by the fall if current negotiations by the B.C. Hydro Commission and the Electrical Workers Union prove successful.

This is the first time that dental care provisions have been included in a collective bargaining agreement in British Columbia, according to labour officials. The proposed scheme will be run as a pilot project and could be the forerunner of similar schemes in other sections of industry.

The prepaid plan was worked out by Dental Services Association of British Columbia, a dental service corporation established by the British Columbia Dental Association. The electrical workers were considered a good prototype because:

The group is large enough to generate income to keep the plan going financially;

It would provide continuity of employment, essential in a proper assessment of the plan's effectiveness;

Records are readily available so that administrative costs can be kept to a minimum; and

The electrical workers were about to enter new contract negotiations.

The premium for the 1,200 Hydro workers and 3,600 dependants would reportedly be \$5.99 per month per employee. Total cost would be about \$90,000 a year. The division of the cost has yet to be worked out in negotiations. Preliminary suggestions are that the employer pay the full premium and the employee pays 50 per cent of the dental service.

The plan would cover basic dental care, but would exclude orthodontic treatment, crown and bridge prosthodontics and restorative procedures where gold is employed.

C.M.A. Answers Hall Report

The Canadian Medical Association has again rejected a compulsory, universal tax supported medical care plan for Canadians as recommended by the Royal Commission on Health Services. In a unanimously approved policy statement, adopted in Halifax June 15, the C.M.A. warned that limiting financing to a single government source would lead to restrictions in service or conflict with the providers of medical service over remuneration or working conditions. The C.M.A. also insisted on free choice of physicians and insurance plans and asked that physicians and patients be left free to act outside the plan without loss of benefits.

The statement reiterated the C.M.A.'s views that:

Medical care coverage should be available to all to cover physicians' services, paramedical services and prescribed drugs;

Administrative structures for medical services should be non-political, with full representation of the medical profession, and consultation with the profession during the planning stages;

Through co-operation between governments, the insurers, the public and health

professions, health insurance can be made accessible to all;

Insurance should be universally available, on a guaranteed renewable basis with portability and continuation of coverage despite unemployment, illness or death of the wage earner; and

Measures must be taken to educate more physicians and health personnel and improve the availability of their services.

The statement added that alternative types of insurance, offering total prepayment (first dollar coverage) and patient participation (with deductibles and co-insurance) must be maintained. The statement added that time will tell the differences in value to the insured of the two types of plan as well as the distinctions between insurance against catastrophic medical costs and budgeting, by prepaying health cost.

Fluoridation

70 Per Cent of New Zealand Fluoridated

Approximately 70 per cent of the New Zealand urban populace is served by fluoridated water supplies, according to the New Zealand Board of Health Fluoridation Committee. About 1.7 million persons are served by community water supplies, and over one million of these people have fluoridation. New Zealand's total population is 2.5 million.

Fluoridation Gains in Ireland

Latest statistics released by the Irish Department of Health show that 862,400 persons in Ireland reside in communities with fluoridated water supplies. Dublin is the largest city served with a population of 720,000. The second largest city to have fluoridated water is Cork, with a population of 120,000. In addition, arrangements have been made to fluoridate the Waterford (30,000) and Limerick (52,000) city water supplies within a few months. Several other large towns will

have fluoridation before the end of 1965. By April 1966 most Irish cities are expected to have fluoridated water supplies. The Irish Health Act of 1960 requires fluoridation of all community water supplies.

Fluoridation Benefits School Children

Significant reductions in tooth decay have been achieved by fluoridating school drinking water in communities lacking a central water supply system, according to D. J. Galagan, assistant surgeon general and chief of the Division of Dental Public Health and Resources of the United States Public Health Service. "This is an important step in efforts to combat tooth decay among children in rural areas," Dr. Galagan said. Elementary school children in St. Thomas, Virgin Islands, where the study was conducted, had 22 per cent less decay than children in the same area drinking non-fluoridated water. Similar studies are being conducted by the P.H.S. in Kentucky and Pennsylvania.

Regional Conventions

Montreal Fall Clinic Set for Oct. 23-27

The 40th Annual Fall Clinic of the Montreal Dental Club will be held at the Queen Elizabeth Hotel, Montreal, October 23-27.

October 23 and 24 will be taken up with a two-day pre-clinic seminar devoted to "Surgical and Prosthetic Management of Advanced Periodontal Disease." J. F. Pritchard of Fort Worth, Texas, will be the seminar clinician. Other program features are:

MONDAY, OCT. 25

- R. W. Phillips, Indiana University School of Dentistry: Restorative materials — modern concepts designed for clinical success (one-day seminar)
- John Vincelli, McGill University: Centric relation and remount procedures symposium on pain control

TUESDAY, OCT. 26

- S. N. Bhaskar, U. S. Army Institute of Dental Research: Diagnosis and treatment of common oral lesions seen in a dental office (one-day seminar)
- C. Weiss, New York City: A philosophy of the practice of dentistry
- Luncheon with learning
- Orthodontic symposium

WEDNESDAY, OCT. 27

- Table clinics
- Ten projected clinics

Further information may be obtained from the Montreal Dental Club, 4166 St. Catherine Street West, Montreal 6, P. Quebec.

Research

Gemini Astronauts to Use Silicone Rubber-Tipped Toothbrushes

Gemini astronauts on extended space missions may not be able to use a dentifrice or rinse their mouths after brushing. They will, however, be equipped with a two-row toothbrush fitted with an interdental stimulator tip.

Officials of the U. S. National Aeronautics and Space Administration, conscious of the need for adequate oral hygiene during space flights, at first thought that a plastic handle with a rubber tip for interproximal cleaning and controlled gum massage might be all that could be accomplished. More recent findings at Brooks Air Force Base, Texas, have demonstrated the effectiveness of a dry toothbrush used in conjunction with dental floss. This combination was nearly as effective over short periods of time as the more usual method of using dentifrice and toothbrush, followed by a water rinse. It was far more effective than chewing gum for plaque removal and subjective impressions of cleanliness. The choice of a toothbrush with the stimulator tip to replace the dental floss was a natural extension of these findings.

One problem encountered was the fact that natural rubber, ordinarily used in

tips, becomes brittle and lifeless under conditions of high temperature and high oxygen that may be encountered in a space mission. A quantity of tips were therefore molded from Dow-Corning's Silastic, a silicone rubber, and fitted on standard hard nylon toothbrushes. These silicone rubber-tipped toothbrushes will help Gemini crews to maintain oral hygiene during extended space missions.

Research and Education Conference Slated for Washington, Oct. 4-6

A national conference on dental research and education will be held October 4-6 in Washington. Sponsored by the American Association of Dental Schools, the National Dental Association and the American Dental Association, the purpose of the conference is to review the present status and future directions of research and its relation to dental education. Funds for support of the program have been furnished by the Professional Service Division of the Procter and Gamble Company. Attendance is limited to dental deans and administrators.

Highlighting the three day conference will be a discussion of the role of the federal government in research and education. Additional topics to be covered include: responsibilities of the university as a research centre; contributions of research to the university's capabilities; and evolution of research as a force in dental education.

Tetracycline-Tooth Staining Hazards Stressed

Dental staining due to antibiotic therapy affects two to three per cent of elementary school children and the incidence in some paediatric practices is as high as 27 per cent. These facts emerged from a symposium attended by 60 American and British scientists in Philadelphia last May. Sponsored by the Paediatric Department of Jefferson Medical College, the meeting was held to review information related primarily to tooth staining and tetracyclines.

The group concluded that appreciable dental staining in children may occur when tetracyclines are administered to gravid mothers after the fourth month of gestation, and to children when these drugs are given any time from birth through the seventh year of life. The staining can affect both the deciduous and permanent teeth. However, most cases of cosmetically objectionable staining result from the administration of tetracyclines before the fifth year of life and these agents should not be used during this period unless it is established that the risk of dental staining is warranted.

Some tetracycline analogues appear to be more capable of causing cosmetically appreciable staining than others. Clinically significant dental staining occurs less frequently with oxytetracycline as compared with other analogues. However, additional clinical investigations are needed to clarify the extent of differences between analogues, and the minimal dose level which results in dental staining at various ages.

It was also reported that legal suits regarding dental staining due to administration of tetracyclines are in progress. For over two years, package inserts (in the United States) have contained warning statements regarding the dental hazards.

Awards and Honours

Ernest Charron, former dean of the Faculty of Dental Surgery, Université de Montréal, was appointed dean emeritus on May 6.

On May 27 the Université de Montréal conferred an honorary doctorate on **Paul Geoffrion**, former dean of the Faculty of Dental Surgery.

C. H. M. Williams of Toronto has been awarded the Elmer S. Best Memorial Award by the Pierre Fauchard Academy of Dentistry for outstanding contributions to dental science.

Economie

Réponse de l'A.M.C. au rapport de la Commission Hall

Dans une déclaration de principe, approuvée à l'unanimité à Halifax le 15 juin, l'Association médicale canadienne rejette à nouveau le programme de soins médicaux que propose la Commission royale sur les services de santé, programme obligatoire, universel, et entièrement financé par des taxes. Si le gouvernement fait seul les frais d'un tel programme, l'A.M.C. craint une diminution des services professionnels, ainsi que des conflits entre le gouvernement et les médecins au sujet de la rémunération et des conditions de travail. Il faut que chacun soit libre de choisir son médecin et son plan d'assurance, déclare l'A.M.C.; patient et médecin doivent avoir le droit d'agir en dehors du programme, sans pour cela perdre les bénéfices auxquels ils ont droit.

La déclaration réitère certaines opinions de l'A.M.C., à savoir:

Les bénéfices médicaux doivent être disponibles à tous et inclure les services professionnels des médecins, les services para-médicaux de même que les médicaments;

Les structures administratives d'un programme médical doivent être exemptes d'influences politiques, et la profession médicale doit y être représentée adéquatement. Il faut aussi que la profession médicale soit consultée tout au long de la préparation d'un tel programme;

Il est possible de mettre l'assurance-santé à la portée de tous grâce à une saine coopération entre les gouverne-

ments, les assureurs, le public et la profession médicale;

Il faut que l'assurance médicale soit disponible à tous, qu'elle soit garantie renouvelable et transférable; la protection doit aussi se prolonger malgré le chômage, la maladie ou le décès du père de famille;

Il faut prendre les mesures nécessaires pour qualifier un plus grand nombre de médecins et de personnel auxiliaire, de façon à ce que leurs services soient plus accessibles.

La déclaration conclut en disant qu'il faut maintenir d'autres genres d'assurances, notamment un programme qui nécessite la contribution du patient. C'est à la longue qu'on verra quel genre d'assurance est le plus profitable à l'assuré.

Les enfants recevraient des soins dentaires inadéquats au Canada

Les enfants au Canada ne reçoivent pas des soins dentaires appropriés, déclare le docteur C. L. Strachan de London, dans une communication prononcée le 17 mai au 98ème Congrès de l'Ontario Dental Association. Le docteur Strachan, membre de la Commission royale sur les services de santé, a mis son auditoire en garde: "Il faut oublier les vieilles rengaines qui opposent besoin et demande," car dans le cas des enfants, les deux sont à peu près identiques.

C'est avec grand intérêt que la Commission royale a constaté qu'il n'y a pas assez de dentistes, que les dentistes sont trop occupés, et que les enfants canadiens ne reçoivent pas tous les soins dentaires dont ils ont besoin.

Le rapport dentiste à population au Canada est défavorable au point qu'on

puisse considérer la situation alarmante. Les enfants ne sont pas traités d'une façon satisfaisante, même à London, Ontario. Pourtant, la proportion dentiste à population est la même qu'ailleurs au Canada et il y a un système de traitements dentaires de tout premier ordre pour les enfants d'âge scolaire.

Le docteur Strachan reconnaît qu'un nombre sans cesse croissant d'enfants sont traités dans les cabinets dentaires, mais il prétend que les améliorations techniques ont augmenté le coût des soins dentaires au point de les rendre prohibitifs.

Faisant allusion aux recommandations de la Commission royale relatives aux auxiliaires dentaires, le docteur Strachan fait remarquer qu'il parle en tant que commissaire et n'exprime pas nécessairement ses idées personnelles à ce sujet.

Est-il possible, dit-il, que la Commission royale ne reconnaisse pas qu'en Nouvelle-Zélande les aides dentaires ont fait leurs preuves? . . . Peut-on refuser de reconnaître les qualifications et les réalisations d'un personnel semblable en Angleterre? . . . Avons-nous réellement fait place chez-nous aux hygiénistes dentaires?"

"Quelles que soient les statistiques relatives à la productivité de ce genre d'assistantes, il est loin d'être sûr qu'un nombre suffisant de dentistes choisiront de faire travailler des hygiénistes dentaires dans leur cabinet."

Le docteur Strachan a invité les dentistes à faire un examen de conscience sérieux. "Il ne faut pas nous prendre trop au sérieux et nous croire indispensables . . . Quelqu'importants que soient les dentistes, ils ne représentent qu'une petite proportion du personnel de l'équipe santé . . . La formation d'un dentiste coûte cher," dit-il, "mais les étudiants ne paient qu'une partie de leurs études. Si nous bénéficions de l'aide des fonds publiques, le public a droit à des compensations et nous n'avons pas le droit de pratiquer notre profession exclusivement pour notre bien et notre enrichissement personnels. Si, en tant que profession, nous ne faisons pas face à nos responsabilités, c'est au gouvernement qu'il revient de décider ce qu'il y a lieu de faire."

Les compagnies canadiennes s'intéressent peu à l'assurance dentaire

Le Bureau des recherches économiques de l'A.D.C. remarque que les polices d'assurance dentaire sont très peu répandues au Canada. On ne s'attend pas à ce que ce type d'assurance se développe rapidement car son coût est trop élevé. Environ 14 compagnies offrent actuellement des assurances pour soins dentaires, mais deux ne le font que d'une façon expérimentale. La plupart du temps, l'assurance soins dentaires n'est pas un contrat distinct, mais se greffe à d'autres polices d'assurance-vie ou d'assurance-santé qu'offre la compagnie.

La loi 'Medicare' de l'Ontario est votée

Le 22 juin, la législature provinciale de l'Ontario a approuvé un projet de loi qui permettra aux résidents de l'Ontario de profiter d'une assurance médicale à partir du 1er juin 1966. La loi d'assurance soins médicaux de l'Ontario prévoit un programme dans lequel le gouvernement provincial défraiera la totalité des primes d'une police d'assurance standard pour les individus dont le revenu n'est pas taxable. Il défraiera aussi une partie variable des primes pour les individus qui ont un revenu taxable allant jusqu'à \$1,000.00. Le gouvernement sera l'assureur dans le cas des polices dont il paie la totalité des primes. C'est un conseil de neuf membres qui verra à l'administration de la loi; cinq représenteront le gouvernement, deux les médecins, et deux les compagnies d'assurance.

Ce programme suit les recommandations que faisait, il y a un an, le comité gouvernemental présidé par J. G. Hagey. Il n'est pas aussi étendu que celui que propose la Commission fédérale sur les services de santé.

Le Ministre de la santé Matthew Dymond évalue à \$70,000,000.00 le coût d'opération pour la première année. Un million huit cent mille personnes, soit le quart de la population de l'Ontario, auront droit à des bénéfices complets ou partiels. Il leur faudra produire des formules du bureau de l'Impôt sur le revenu et se procurer une police standard

du gouvernement. Il faudra mettre sur pied un nouveau service au Ministère de la santé: le service des soins médicaux. Le reste de la population pourra acheter des polices médicales sur le marché général de l'assurance, mais le gouvernement règlera le prix de l'assurance suivant les recommandations d'un conseil spécial que prévoit la nouvelle loi.

Les contrats standards comprennent les soins médicaux, chirurgicaux et obstétricaux, à domicile, au bureau et à l'hôpital. Contrairement à tous les autres plans, il n'y aura pas de clause de déductibilité.

Grâce à ce système, les médecins pourront continuer à déterminer eux-mêmes leurs honoraires et les patients auront libre choix de leur médecin.

La Saskatchewan et le recrutement de dentistes

Le *Financial Post* commentait dernièrement les vains efforts que fait le gouvernement de Saskatchewan pour importer d'Europe du personnel qualifié. Le gouvernement provincial tentera maintenant d'attirer les travailleurs de l'est du Canada et du centre des Etats-Unis. Selon le Premier Ministre Ross Thatcher, un tel programme tenterait d'intéresser dentistes, infirmières, professeurs et ingénieurs dont sa province a grand besoin. Le programme de recrutement mené à Londres n'a amené à la Saskatchewan que 40 personnes depuis le 1er janvier. Il s'agit principalement de professionnels britanniques, médecins, dentistes et infirmières. Le représentant de la Saskatchewan à Londres doit étendre sa campagne de recrutement jusqu'en Allemagne, mais le Premier Ministre reste sceptique quant au succès de cette démarche.

Un projet de soins médicaux devient loi en Colombie britannique

L'Assemblée législative de Colombie britannique vient d'approuver un projet de loi visant à fournir des soins médicaux aux personnes nécessiteuses. Dans les discussions préalables, le Collège des

Chirurgiens dentistes de la Colombie britannique a insisté auprès du gouvernement pour que les soins professionnels prévus par la loi ne soient rendus que par des médecins ou dentistes dûment licenciés. On a aussi insisté pour que tous les praticiens qualifiés au point de vue légal et académique aient droit d'exercer dans les limites du plan et soient rémunérés à même les deniers publics.

Fluoration

L'Organisation panaméricaine de la santé prend position sur la fluoration

A une séance tenue dernièrement à Mexico, le conseil de direction de l'Organisation panaméricaine de la santé a adopté une résolution demandant aux 21 nations d'Amérique centrale et d'Amérique latine d'intensifier leurs efforts pour répandre l'emploi de la fluoration des eaux de consommation. Le Conseil fait appel aux différents ministères de la santé publique leur demandant d'intervenir directement auprès des organismes responsables des systèmes d'aqueduc afin que ceux-ci fassent des lois pour rendre la fluoration obligatoire. Le Conseil fait remarquer que le problème dentaire en Amérique latine prend des proportions alarmantes.

La fluoration réduit de moitié le coût des soins dentaires

Le coût des soins dentaires pour l'enfant est deux fois moindre dans une ville dont l'eau est fluorée; c'est ce que démontre une étude récente que le docteur D. B. Ast, directeur de la Division of Special Health Services du New York State Department of Health, a présentée lors de la 16ème Conférence nationale pour la santé dentaire organisée par l'American Dental Association. Le docteur Ast a cité les statistiques relatives au coût des traitements dentaires dans deux villes de l'état de New York, Newburgh et Kingston. Newburgh fluore son eau depuis 1945, alors que l'eau de Kingston est

déficiente en fluorure. Les chiffres portent sur les deux premières années d'une étude de six ans qui a pour objet des enfants de cinq à six ans. Quarante et un pour cent des enfants de Newburgh n'ont eu besoin d'aucune intervention dentaire, alors que seulement 15.5 pour cent des enfants de Kingston se sont trouvés dans la même situation. De plus, les enfants de Kingston qu'il a fallu traiter ont montré en moyenne deux fois plus de dents cariées (5.4) que les enfants de Newburgh (2.3). Le docteur Ast fait de plus remarquer que les besoins dentaires des enfants ont diminué dans la période qui suivit l'examen original; la moyenne des interventions requises est tombée à 0.8 par enfant à Newburgh par rapport à 1.8 à Kingston.

La fluoration, un bienfait pour les écoliers

Le docteur D. J. Galagan, directeur du Service de santé publique dentaire au département d'hygiène publique des États-Unis, publie des statistiques qui démontrent une réduction appréciable de la carie obtenue à la suite de la fluoration de l'eau potable des écoles dans des localités qui n'ont pas de système d'aque-duc. "Nous avons là un excellent moyen de réduire la carie chez les écoliers des régions rurales," dit le docteur Galagan. Les écoliers de St-Thomas, Virgin Islands, où l'on a fait cette étude, ont eu un taux de carie inférieur de 22 pour cent au taux des caries des enfants du groupe de contrôle. On fait actuellement des études du même genre au Kentucky et en Pennsylvanie.

La fluoration obligatoire au Connecticut

Le Connecticut est le premier état américain à réglementer la fluoration. Le 28 mai, le Gouverneur John N. Dempsey a apposé sa signature à un projet de loi qui rend obligatoire la fluoration des eaux de consommation dans toutes les villes de plus de 20,000 âmes. Déjà, le Conseil de la santé publique avait émis un règlement semblable ayant force de

loi, mais les législateurs ont tenu à poser eux-mêmes un geste additionnel dans le même sens. Le projet de loi a reçu une très forte majorité dans les deux Chambres de la législature. Le nouveau règlement oblige les villes de 20,000 à 50,000 âmes à fluorer leur eau avant le 1er octobre 1967, alors que les villes de plus de 50,000 habitants devront le faire dès de 1er janvier 1967.

Recherches

Bourses de recherche du Québec

Le Ministère de la santé du Québec a fait savoir qu'à la recommandation du Conseil provincial de recherche médicale, il octroiera trois genres de bourses.

1. Les gradués qualifiés en recherche pourront obtenir, pour une période d'un an, des bourses non-renouvelables allant jusqu'à \$10,000.00 afin d'entreprendre des travaux originaux de recherche.

2. Des bourses variant de \$3,300.00 à \$4,500.00 par année sont disponibles pour des étudiants en médecine, chirurgie dentaire ou pharmacie qui désirent consacrer une année à la recherche dans un département de sciences de base.

3. Aux étudiants de médecine, chirurgie dentaire ou pharmacie qui interrompent leurs études sous-graduées pour consacrer une année à la recherche dans une université ou tout autre département de sciences de base, on offre \$200.00 par mois pour une année académique de neuf mois, s'ils ont terminé leur première année, et \$225.00 par mois s'ils ont terminé leur deuxième année.

Palmarès

A son congrès tenu à Québec le 31 mai, l'Association dentaire canadienne a conféré le titre de membre honoraire à vie au docteur **Paul Geoffrion**, ancien doyen de la Faculté de chirurgie dentaire de l'Université de Montréal.

Oral Anatomy

H. Sicher. Ed. 4. St. Louis, C. V. Mosby Co., 1965. 523 p. Illus. \$14.00

The publication of a fourth edition of Sicher's *Oral Anatomy* attests to its deserved popularity, and establishes it as a basic text and source of reference whose currency continues to be maintained. The format of the book has not been altered from that of the previous editions. It continues to deal with head and neck anatomy, rather than 'oral' anatomy alone as the title would imply, in two sections—'descriptive' and 'applied' anatomy. The explicit and detailed description of the structures comprising the head and neck, accompanied by superbly clear photographs and drawings, makes the work an unrivalled source of anatomical facts of these regions. Numerous minor changes have been made in the text to clarify and update concepts, particularly with regard to growth and development.

The section on regional and applied anatomy relates structural features of the jaws and surrounding parts that should be most useful to the clinician, both in routine treatment ("Anatomy of Local Anaesthesia" and "The Edentulous Mouth") and in exceptional emergencies ("Arterial Haemorrhages" and "Tracheotomy and Laryngotomy"). However, if the clinical application of anatomical principles is to be dealt with at all, then it is difficult to understand why little or no mention is made of radiography as one of the most frequently used methods of studying 'living' anatomy. An anatomical interpretation of radiographs would enormously enhance the usefulness of both the descriptive and applied sections of anatomy. Further, the lack of any reference to skeletal fractures, which is one of the most common problems demanding a detailed knowledge of anatomy and the application of anatomical principles, constitutes a serious omission from this work. The action of muscles on bone fragments following fracture of the facial skeleton is a prime example of applied anatomy that is given no consideration.

The almost complete absence of references to other works enables the author to present an uncluttered and, at times, assertive text on controversial matters, which might per-

haps serve the requirements of the undergraduate student. However, this factor seriously detracts from the value of the work for the researcher, and robs much of the writing of deserved tributes to earlier anatomists.

Despite these criticisms of the work, which might be rectified in future editions, this new volume of *Oral Anatomy* continues to reflect the high reputation of the author, and the publishers have maintained the commendable quality of paper, printing and binding that one has come to associate with their name. This reviewer looks forward to the continued success of this publication in future, improved editions.

G. H. Sperber

Oral Diagnosis

D. A. Kerr, M. Ash, Jr. and H. D. Millard. Ed. 2. St. Louis, C. V. Mosby Company, 1965. 451 p. Illus. \$11.00

The first edition of this fine book was published in 1959. This second edition (1965) is not greatly changed but offers some additional material on disease entities.

Most texts on oral diagnosis emphasize specific diseases. This book deliberately avoids that approach. Instead, the authors concentrate on the mechanics of making a diagnosis, feeling that this is a subject worthy of its own textbook.

The opening chapter deals with types of examinations (recall, screening, emergency, and so forth), health questionnaires and the significance of the questions asked. The authors then describe the cardinal manifestations of disease (pain, weakness, and so forth) and discuss the relative importance of each as well as possible predisposing causes.

Chapter 3 deals with the art of history taking. It is followed by chapters on general clinical examination, detailed oral examination, radiographic examination, supplementary examination aids and, finally, diagnosis and treatment planning.

The chapter on supplementary examination aids includes bacteriological studies, blood studies, urine studies, contact sensitivity tests, biopsy, exfoliative cytology (this

is an addition), pulp vitality tests, study casts, use of the surveyor and disclosing solutions. Many of these headings reflect areas of minimal knowledge for most practitioners and this chapter makes an excellent ready reference to gain and refresh knowledge.

As a clinician and teacher, this reviewer enjoyed the book. The approach is refreshing; the information and illustrations are excellent. The text should find its greatest use at the undergraduate level. It is also highly recommended to all practitioners who wish to improve their diagnostic procedures and basic knowledge of physiology and pathology.

J. E. Speck

The Year Book of Dentistry (1964-1965 Year Book Series)

S. D. Tylman, D. A. Keys, J. W. Knutson, R. E. Moyers, H. B. G. Robinson and H. B. Clark, Jr., ed. Chicago, Year Book Medical Publishers, 1965. 507 p. Illus. \$8.80

The *Year Book of Dentistry* has been published every year since 1900. Series 1964-65 consists of abstracts of original articles selected from dental publications all over the world. Six distinguished editors reviewed thousands of articles on diagnosis, endodontics and oral medicine, caries, public health, orthodontics, oral surgery, restorative and prosthetic dentistry. This year H. B. Clark, Jr. of the University of Minnesota replaced C. W. Waldron as editor of the oral surgery material. Most of the articles are followed by editorial comment.

This review of dentistry, well illustrated and indexed, includes information on almost every aspect of dentistry. The abstracts are skilfully woven together and result in a smoothly running text which is not difficult to read.

The book could be read with profit by those who wish to keep up to date in their knowledge of the science and practice of dentistry.

D. H. Munro

L'urgence en odonto-stomatologie

R. Ackermann et L. Pompian-Miniac. Paris, Masson et Cie et Julien Prélat, 1964. 420 p. Illustré. NF 58.-

Ackermann et Pompian-Miniac discutent et illustrent les différents états d'urgence que l'omnipraticien peut rencontrer quotidiennement dans son cabinet dentaire. Ce travail possède l'avantage de réaliser en un seul volume une discussion claire et détaillée des urgences. Il s'adresse tant à l'étudiant qu'au praticien.

La grande valeur de cet ouvrage réside surtout dans ses descriptions lucides et complètes ainsi que sur ses remarquables illustrations; ces schémas présentés de façon vivante et claire facilitent la compréhension du texte.

Le texte est divisé en huit parties, chacune d'elles précédée d'un plan qui aide la lecture du travail.

Dans la première partie, les auteurs abordent l'aspect clinique thérapeutique et préventif des accidents dramatiques que constituent les syncopes. Ils terminent cette partie en décrivant brièvement deux accidents généraux aigus survenant au cabinet du praticien. Cependant, on aurait aimé que les auteurs nous donnent une description plus complète de ces accidents généraux. Il aurait été intéressant de connaître les mesures d'urgence qui s'imposent à la suite d'une crise d'angine de poitrine, d'une thrombose coronaire aiguë ou d'un accident vasculaire cérébral. La deuxième partie traite des hémorragies: elle se révèle par son aspect pratique et l'excellence de ses schémas. La troisième partie qui traite des infections, est particulièrement intéressante parce qu'elle résume la conduite thérapeutique à suivre dans l'immense diversité des cas qui peuvent se présenter.

Les différentes algies bucco-faciales ainsi que les psychalgies font l'objet de la quatrième partie de l'ouvrage. La conduite à tenir dans les cas de traumatismes résultant d'accidents de la route ou d'accidents de travail se retrouve dans la cinquième partie du volume. A mon avis cette section devrait faire partie d'un grand chapitre ayant pour titre: "Les accidents rencontrés au cours de la pratique dentaire."

Enfin le traité se termine par une division qui se consacre à certains états systémiques pouvant influencer les décisions thérapeutiques à prendre et une autre traitant des médicaments et instruments nécessaires pour le traitement de toute situation d'urgence.

En terminant, il faut féliciter les auteurs de ce traité qui ont réussi à faire, dans un seul volume, un exposé des situations d'urgence rencontrées au cabinet du dentiste. Cet exposé se distingue surtout par la netteté de ses schémas et l'étonnante clarté de ses illustrations.

R. Ackermann and L. Pompian-Miniac describe and illustrate a variety of emergencies that daily confront the general dental practitioner. They present a very clear yet comprehensive account of these emergencies within a single textbook directed at students and practitioners. The value of their book lies in its lucid descriptions and its remarkably lifelike illustrations which greatly enhance the text.

The book is divided into eight sections, each preceded by an outline of content which facilitates reading. In the first section the authors discuss the treatment and prevention of dramatic accidents, such as syncope. They terminate this section with a brief account of

two kinds of acute general emergencies. A more extensive description of general emergencies would have been desirable, particularly with regard to first-aid measures in angina pectoris, coronary thrombosis and cerebral vascular accidents. The second section, devoted to haemorrhage, offers practical information and is enhanced by excellent diagrams. The third section, dealing with infections, is particularly noteworthy for its summation of treatment applicable to the immense variety of cases one may encounter. Pain of oral, facial and psychic origin is described in the fourth section. The management of traumatic injuries resulting from highway accidents and occupational hazards is presented in the fifth section. This section could well have formed part of a major chapter entitled 'Accidents encountered in dental practice.' The book closes with an account of systemic conditions that may influence therapeutic decisions and a description of the armamentarium and drugs required for a complete emergency kit.

The authors are to be commended for describing emergency situations in the dental office within the space of a single textbook. Their book is particularly distinguished by its very clear diagrams and excellent illustrations.

J.-N. Fontaine

Les extractions en chirurgie dentaire

Maurice Pelletier. Paris, Julien Prélat, 1964. 183 p. Illustré. Broché NF 28.-; Relié toile NF 34.-

Ce livre comprend une revue complète de ce qu'un praticien doit savoir et comprendre avant "d'opérer une extraction et comment il faut extraire."

Il est bien à propos de constater que le livre est divisé en deux grandes parties. La première rappelle l'anatomie concernée ainsi que l'évaluation générale du patient soumis à cet acte chirurgical. Une brève revue de l'asepsie, antisepsie, anesthésie, hémorragie et hémostase est bien à point. Cette partie est claire et pratique et de très grande importance; ces divers éléments sont un prérequis à l'acte chirurgical basé sur un diagnostic très défini.

La seconde partie, consacrée plus directement à l'extraction, traite d'une façon concise de la préparation du patient et de ses répercussions physio-organiques, phase très importante dans le succès de l'opération. La revue des conditions de l'extraction et de la description des divers instruments employés est bien décrite. Une très bonne révision des techniques à employer est complétée par des illustrations de très bonne qualité; le

tout donne au lecteur autant l'idée transmise dans le texte que la technique à employer chez les enfants, adultes et vieillards. L'auteur, à juste titre, décrit la cicatrisation et les divers processus biologiques qui se déroulent à la suite de l'extraction de même que les soins post-opératoires nécessaires.

Comme l'enlèvement des dents incluses, soit au mandibule ou au maxillaire, est souvent un acte très évolué, l'auteur procède à une description élaborée des diverses techniques qui peuvent être employées dans ces cas.

Le livre se termine par une révision des accidents possibles durant la chirurgie, de l'antibiothérapie et de la médication d'urgence. Ce livre écrit suivant les méthodes d'enseignement français est de très bonne qualité. Les principes sont basés sur la compréhension de l'anatomie, de la physiologie et des techniques chirurgicales employées et il devrait être dans tout cabinet dentaire.

This book provides a complete review of everything a dentist must know about tooth extraction. The book is divided into two major portions. The first portion deals with the anatomy of the region involved and describes case assessment of a patient about to undergo a dental extraction. Other topics reviewed are asepsis, antisepsis, anaesthesia, haemorrhage and haemostasis. The descriptions are clear and practical. The importance of this part of the book is underlined by the fact that its components are a prerequisite to surgical operations based on a definitive diagnosis.

The second portion is more directly devoted to tooth extraction. In it the author concisely describes pre-operative preparation of the patient and the physio-organic effects of such preparation. Various extraction problems and instruments are examined. There is an excellent review of surgical techniques. This is complemented by extremely fine illustrations. All of this provides the reader with a clear picture of the techniques he may employ for children, adults and older patients. The author continues with a description of post-extraction healing processes and post-operative care.

The extraction of impacted teeth is often fraught with complications. Pelletier therefore offers a detailed description of the different techniques used for the removal of such teeth.

His book concludes with comments on extraction accidents, antibiotic therapy and emergency medication.

Pelletier has written a very fine book according to the French system of dental education. Yet the principles which he expounds are based on a common understanding of anatomy, physiology and surgical techniques. This is a recommended text.

André Charest

Additions • Acquisitions

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- SICHER, H. Oral anatomy. Ed. 4. St. Louis, Mosby, 1965. 523p. illus. \$14.00
- SKLARE, A. B. Creative report writing. Toronto, McGraw-Hill, 1964. 428p. illus. \$8.65
- WERNER, H. Measuring of lip pressure; a method and its application. (Acta Odontologica Scandinavica, Vol. 22, Sup. 40, 1964.) 122p. illus.
- YEAR BOOK OF DRUG THERAPY, 1964-1965. Edited by Harry Beckman. Chicago, Year Book Medical, 1965. 604p. \$9.35

in memoriam

HENRY S. ALLEN — Dr. H. S. Allen of Summerside, Prince Edward Island, died on May 4, 1965, at the age of 76. Born in Summerside, Dr. Allen graduated from Baltimore College of Dental Surgery, University of Maryland, in 1913. He practised in Lunenburg, Nova Scotia, before establishing a practice in Summerside. During World War I he served as a captain with the Canadian Army Dental Corps. He retired in 1963. Dr. Allen is survived by his wife, Kathleen; one son, Dr. L. S. Allen of Sydney, Nova Scotia; two daughters, Mrs. Wendell Profitt of Charlottetown, Prince Edward Island, and Mrs. James Oakley of Dartmouth, Nova Scotia; a brother, Arthur of Summerside; and eight grandchildren.

CLARENCE HAMBLAY AVERY—Dr. C. H. Avery of Toronto died on June 15, 1965, at the age of 70. Dr. Avery was born in Strathroy, Ontario, in 1894 and graduated from the Royal College of Dental Surgeons of Ontario in 1920. He served in both world wars with the Canadian Army Dental Corps. In 1954 he joined the staff of the Division of Dental Services of the Department of Health of the City of Toronto, serving as a dental inspector and clinician. He retired in 1964. Besides his wife, Mildred, Dr. Avery is survived by a son, William; one brother, Roy C.; and a sister, Laura.

JOHN A. BLACK — Dr. J. A. Black of Sayville, Long Island, died on May 15, 1965, at the age of 58. Dr. Black was born in England in 1906 and graduated from the University of Toronto in 1932. During World War II he served as a captain with the Canadian Army Dental Corps. For the past 15 years he has been living in the Sayville area and was practising in Patchogue at the time of his death. Besides his wife, Dorothy, Dr. Black is survived by two sons, John of East Patchogue and Robert of Sayville; and a brother, Robert of Sault Ste. Marie, Ontario.

CHARLES A. CORRIGAN—Dr. C. A. Corrigan of Toronto died on June 8, 1965, at the age of 88. He graduated from the Royal College of Dental Surgeons of Ontario in 1904. During World War I Dr.

Corrigan served in France and Belgium with the Royal Canadian Army Service Corps, and was awarded the D.S.O. and the Croix de Guerre. In 1932 he helped establish the orthodontic clinic at the Faculty of Dentistry, University of Toronto. He was a member of the Senate of the University of Toronto for several years and in 1963 was appointed professor emeritus of dentistry. Dr. Corrigan is survived by a daughter, Mrs. Ruth McKay of Oakville, Ontario.

FREDERICK ROBERT DREWRY—Dr. F. R. Drewry of Cobourg, Ontario, died on June 20, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1918 and established a practice in Cobourg. During World War II he served overseas with the Royal Canadian Dental Corps from 1940 until 1942. He subsequently served with the Corps at Edmonton, Trenton and Ottawa where he was named Deputy Director of Dental Services with the Department of National Defence in 1951. He retired in 1956 with the rank of colonel. Surviving Dr. Drewry is his wife, Margaret.

MALCOLM DALEY FINIGAN — Dr. M. D. Finigan of Amherst, Nova Scotia, died on May 30, 1965, at the age of 69. He was born in Freeport, Nova Scotia, in 1895 and graduated from Dalhousie University in 1921. Dr. Finigan is survived by his wife, Eva; a daughter, Mrs. George MacLean of Beaconsfield, P. Quebec; four brothers, Frank of Long Beach, California, Austin of Shawbridge, P. Quebec, Bradford and Keith of Freeport; and two granddaughters.

ROYAL FOSTER FRALICK — Dr. R. F. Fralick of Toronto died on May 9, 1965, at the age of 78. He graduated from the Royal College of Dental Surgeons of Ontario in 1920 and practised until his retirement in January 1964. Dr. Fralick is survived by two brothers, Emerson and Kenneth, both of Port Perry, Ontario.

SIMON HERBERT HUTT—Dr. S. H. Hutt of Chesterville, Ontario, died on June 14, 1965. He was 76. Born in Berwick, On-

tario, in 1888, Dr. Hutt graduated from the Royal College of Dental Surgeons of Ontario in 1910. He practised in Ottawa and Chesterville and was a life member of the Royal College of Dental Surgeons of Ontario.

WILLIS CHAUNCEY LYMBURNER — Dr. W. C. Lymburner of Smithville, Ontario, died on June 22, 1965. He was 74. Dr. Lymburner was born in Caistor Township, Lincoln County, Ontario, in 1891 and graduated from the Royal College of Dental Surgeons of Ontario in 1916. Besides practising dentistry in Smithville, he served for 20 years on the staff of the Dental Division, Hamilton Department of Health. Dr. Lymburner is survived by his wife, Mary Lillian; a son, Robert of Toronto; two sisters, Miss Aletha Lymburner and Mrs. Frank Merritt of Grimsby; and two grandchildren.

GEORGE CHISHOLM MacKAY — Dr. G. C. MacKay of Mimico, Ontario, died on May 12, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1924. During World War I he served as a captain with the Royal Naval Air Service. Besides his wife, Rose, Dr. MacKay is survived by a brother, Dr. W. M. MacKay of Sault Ste. Marie; a sister, Mrs. Mary Hewson of Mimico, and two nephews, J. M. Knox and William MacKay.

OLIVER LORNE OATWAY—Dr. O. L. Oatway of Red Deer, Alberta, died on April 3, 1965. He was 55. Dr. Oatway was born in Spruce Grove, Alberta, in 1909 and graduated from the University of Alberta in 1941. He was a director of the Alberta Dental Association, president of the Central Alberta Dental Society, and secretary of the Red Deer Dental Group, as well as having been executive member and chairman of the Red Deer Municipal Hospital Board. He served with the Canadian Dental Corps during World War II in Canada, Great Britain and India. Dr. Oatway is survived by his wife, Kathleen; a son, Richard; a daughter, Margaret; his mother, Mrs. R. M. Oatway of Edmonton; a sister, Edith of Edmonton; and a brother, Harold of Ottawa.

ERNEST ANDREW REID—Dr. E. A. Reid of London, Ontario, died on April 13, 1965, at the age of 67. Born in Springbrook, Ontario, in 1897, he graduated from the Royal College of Dental Surgeons of Ontario in 1920. Dr. Reid practised in Benton Harbor, Michigan, before he moved to London, retiring in 1960. He served overseas during World War I with the Canadian Dental Corps and the Royal Flying Corps. Besides his wife, Kathleen, Dr. Reid is survived by two sons, Philip of Ottawa

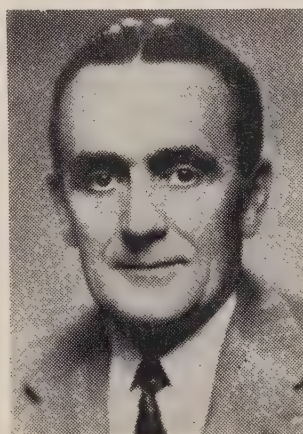
and Stephen of London; a daughter, Mrs. C. J. Smith of Cooksville, Ontario; a brother, Arthur of Springbrook; and a sister, Mrs. Richard Morton of Springbrook.

HOWARD BLAKE RICKARD — Dr. H. B. Rickard of Port Colborne, Ontario, died on May 8, 1965, at the age of 80. He was born in Durham County, Ontario, in 1885. He graduated from the Royal College of Dental Surgeons of Ontario in 1908 and was a life member of the college. Surviving Dr. Rickard are two sons, John and Donald of Port Colborne; three daughters, Mrs. Fred Davies of Toronto, Mrs. George Bidgood of Ancaster, Ontario, and Mrs. Kenneth Ostertag of Tonawanda, New York; one brother, Rev. Roy Rickard of Belleville, Ontario; a sister, Mrs. Mabel Martin of Stratford, Ontario; and nine grandchildren.

G. MARTIN RONDEAU — Le Dr G. M. Rondeau de Westmount, P. Québec est décédé le 25 mai 1965 à l'âge de 63 ans. Il était né à Montréal en 1902 et obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1926. Lui survit une soeur, Mme E. King de Dorval, P. Québec.

ARCHIBALD A. SHAW—Mr. A. A. Shaw died in Toronto December 20, 1964, after a lengthy illness. He was 61. Well known to hundreds of dentists throughout Canada, Mr. Shaw was the former owner and president of Shaw Laboratories Limited. The Journal is indebted to Mr. J. D. Walker, his successor at Shaw Laboratories, for the following appreciation:

"With the recent passing of 'Arch' Shaw, the dental laboratory industry in Canada lost one of its outstanding members.



A. A. Shaw

"Mr. Shaw had been in the laboratory business from his early youth. He secured his first position as a technician in Winnipeg. Then, eager to advance his knowledge of the craft, he associated himself with highly skilled and progressive men in the United States. Later (40 years ago),

he returned to Winnipeg to open the first of the Shaw Laboratories of Canada. Never a person to be satisfied with half measures, he devoted himself tirelessly to the development of that first laboratory, and through it introduced to dentists in western Canada many new developments in prosthetic techniques and materials.

"In 1944 Mr. Shaw left western Canada and came to Toronto. There, in a comparatively short space of time, his talents were recognized, respected and subscribed to by the profession. As a result of this confidence and support, he built a laboratory organization that was without superior anywhere on the North American Continent. In due course, Shaw Laboratories were operating not only in Toronto, but Winnipeg, Edmonton and Vancouver as well.

"The success of this Canadian venture did not go unnoticed in the United States. As a consequence, Arch Shaw was invited time and again to share with the American laboratories the business principles that he had found so successful.

"Only his love for his work kept him working years beyond the time he should have retired for reasons of health. Those who knew him well will recall how long and how severely he suffered from emphysema. Against his will, but upon the insistence of his physicians, he finally disposed of his interest in Shaw Laboratories in 1961.

"The Shaw Laboratories throughout Canada today are operated by men who were raised on his principles and traditions and remain eager to perpetuate his ideals."

Mr. Shaw is survived by his wife, Jean, and his children, Richard, Shirlee (Mrs. J. E. Fache) and Sandra Lynn, and a sister, Mrs. G. E. Fielding.

GORDON ROY STINSON—Dr. G. R. Stinson of Toronto died on April 15, 1965, at the age of 62. He was born in Toronto in 1902 and graduated from the University of Toronto in 1932. During World War II he served as a captain with the Canadian Dental Corps. Besides his wife, Jean, Dr. Stinson is survived by two sons, Roy and Douglas; a brother, Kirk; and two sisters, Mrs. A. Von Zuben, and Audrey Stinson.

HERMAN BERTRAM WOOD — Dr. H. B. Wood of Brentwood Bay, Vancouver Island, died on May 21, 1965. He was 75. Dr. Wood was born in Hillborough, New Brunswick, in 1889 and graduated from Baltimore Medical College in 1912. He practised in Edmonton until his retirement in 1946. During World War I he served with the Canadian Army Dental Corps. Besides his wife, Eva, Dr. Wood is survived by a son, Lloyd of Duncan, British Columbia, and a daughter, Mrs. Robert Green of Boise, Idaho.

Mix that Metaphor • A dentist who asked why we don't take the bull by the horn and get the whip cracking may find consolation in the fact that we find it hard to strike out, with head high, and drive the ship of state along the highway of success, while keeping an eye on the future, an ear to the ground, and our nose to the grindstone. With what does he suggest we wield this metaphorical whip? An allegorical tail? (Anon.)

WORK SIMPLIFICATION IN DENTISTRY

The purpose of this symposium is to acquaint the general practitioner with certain procedures that may benefit him, his patient and the profession at large. The practitioner could benefit by working more comfortably. The patient could benefit by receiving more service per appointment. The profession could benefit because the methods advocated result in greater productivity with no sacrifice in the quality of care.

LA SIMPLIFICATION DU TRAVAIL EN CHIRURGIE DENTAIRE

Le but de ce recueil d'articles est d'informer l'omnipraticien sur certains procédés qui pourraient lui être utiles autant qu'au patient et à la profession en général. Le dentiste en bénéficierait en travaillant plus confortablement. Le patient bénéficierait en obtenant un meilleur service par rendez-vous. Toute la profession pourrait bénéficier d'un rendement plus grand grâce aux méthodes recommandées, sans sacrifier la qualité des soins prodigués.

Prepared instrument trays

Marcel Hébert,* D.D.S., Montreal, P.Quebec

Fully or partially prepared instrument trays help the dentist to treat his patients more quickly and with less physical effort. Specific advantages are the maximum use of the dental chair in a single chair practice; elimination of the cuspidor, and accelerated change-over between patients. The investment in extra instruments is quickly recovered.

■

Les plateaux préparés et semi-préparés sont d'une aide précieuse pour l'omnipraticien. Ils lui permettent de traiter ses patients plus rapidement, plus efficacement, et avec moins de fatigue. Ils permettent aussi un rendement maximum du cabinet dentaire, car il ne peut s'écouler qu'une minute pour effectuer un changement de patients, surtout si l'on remplace le crachoir par un appareil plus efficace. L'investissement requis pour un plus grand nombre d'instruments est rapidement compensé par l'accélération du travail.

Prepared or partially prepared instrument trays facilitate the objectives outlined in the preface to this series of articles: (1) greater operating comfort for the dentist, (2) more service per unit of time to the patient, and (3) increased productivity with no sacrifice in the standard of care rendered.

Trays can be of stainless steel, Fiberglass or porcelain, and of different sizes (Mayo, junior cafeteria, etc.) to suit the dentist's preference. I prefer the junior cafeteria size and the Fiberglass type for colour coding. The distinct advantage of a prepared tray is that when the patient's treatment is finished, all instruments are removed at once, in a single motion, and a fresh tray is installed. The change-over requires about one minute.

The procedure for change-over between patients for one dentist with one roving assistant is as follows:

1. The dentist directs the patient to the business area.
2. The assistant simultaneously removes the used tray and the paper cup from the Vacu-cup funnel and vacuum suction pump arrangement which replace the traditional cuspidor. Thus there is no cuspidor to clean.
3. The assistant installs a fresh tray and clean paper cup in the Vacu-cup.
4. The dentist washes his hands in preparation for the next patient.

*Lecturer in history of dentistry and practice management, Faculty of Dentistry, McGill University, Montreal.

FIGURE 1 Storage cupboard opens to laboratory, sterilizing area and operating room.

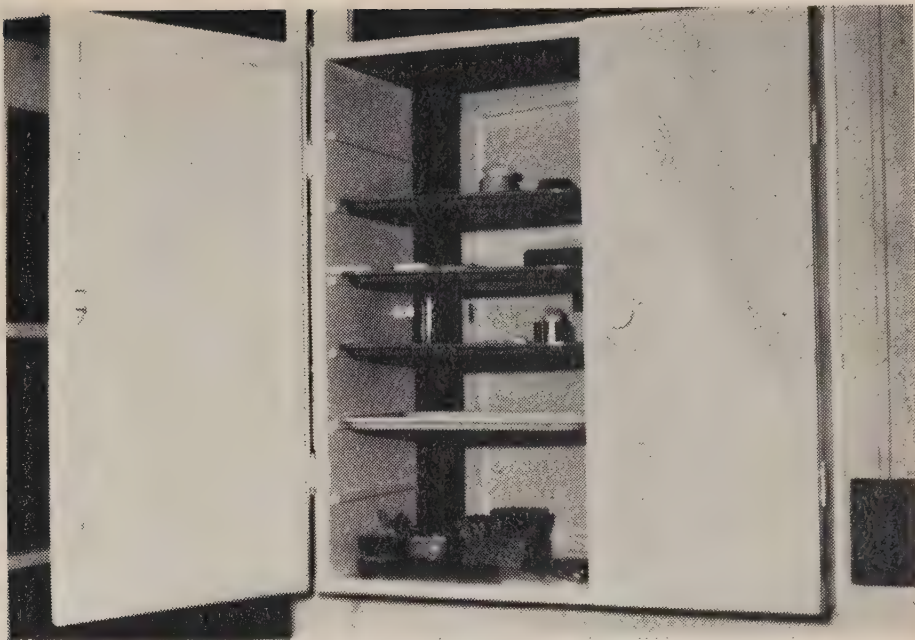


FIGURE 2 Hand instruments in porcelain tray which is placed upon a larger Fiberglas tray.

- 5. The assistant ushers in the new patient.
- 6. The dentist seats himself to start to work.
- 7. The assistant returns to the business area to make another appointment for the preceding patient who used the few seconds of waiting to freshen makeup or comb hair.

The change-over is a little smoother if the dentist has two assistants, but he must still have enough time to scrub his hands properly. Two chairs have the advantage of forcing the dentist to walk a little more during the day. With a tray system, however, a one chair office can be made almost one hundred per cent productive. The evidence that a two chair

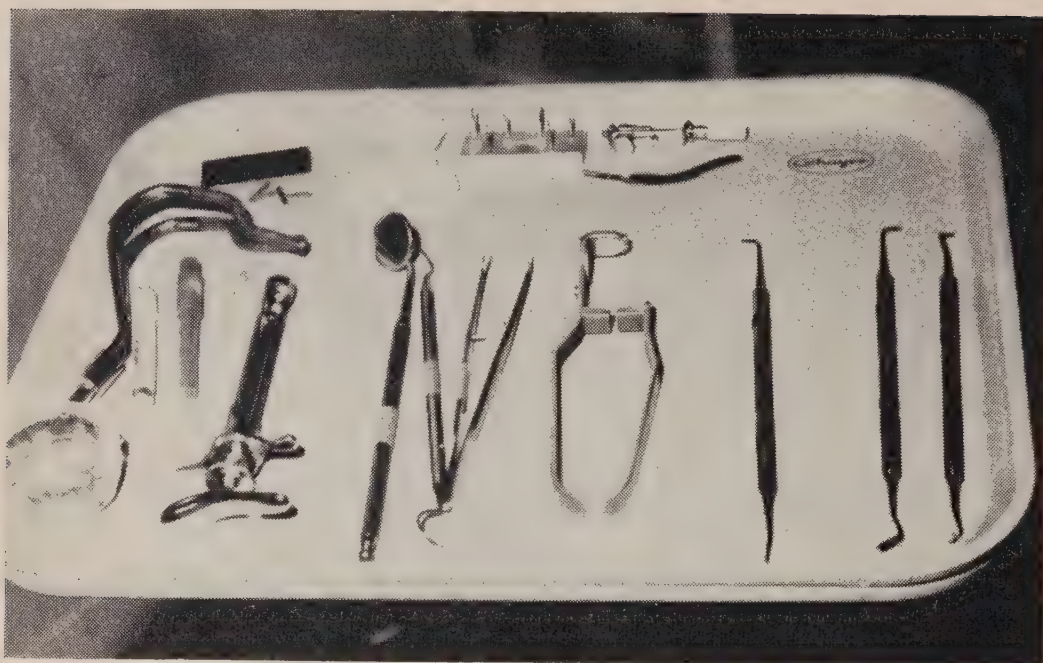


FIGURE 3 Fiberglas tray prepared for amalgam restorations.

office is more productive than a one chair office is usually based on a practice furnished with traditional standard equipment. Such evidence overlooks the increased productivity obtainable through motion economy studies and modified equipment organization.

Many practitioners regard a tray system as synonymous with an investment in hundreds of instruments. To offset this concept partially prepared trays should first be tried. Though not as effective as fully prepared trays, partially prepared trays offer many advantages over the random selection of instruments by the fully occupied dentist. A partially prepared tray contains the objects necessary for any type of treatment: mirror, explorer, college pliers, cotton pellets, cotton rolls, saliva ejector, bur tool remover, local anaesthetic syringe with carpule and disposable needle. While the dentist administers the local anaesthetic, the assistant adds to the tray additional instruments necessary for the work to be done. Fewer sets of instruments are necessary than for fully prepared trays.

A dentist who wishes to test this system can procure two or three extra porcelain trays to fit the bracket table. They can be used as fully prepared or partially prepared trays. Such trays are rather bulky and difficult to handle. However, the advantage of removing all instru-

ments with one motion at the end of a sitting soon becomes apparent, and one will desire trays that are easier to manipulate.

Trays should be stored at eye level. Thus the assistant does not have to bend when reaching for a tray. A cupboard that opens into the laboratory or sterilizing area as well as to the operating room is ideal for storing loaded trays and provides ready accessibility when trays are required for use (Figure 1).

Instruments can also be stored in small porcelain trays (approximately 4 x 7 inches) of the type used in dental cabinet drawers. These porcelain trays are placed on a larger tray alongside mirror, explorer, college pliers on one side, and patient's towel and clips on the other side (Figure 2).

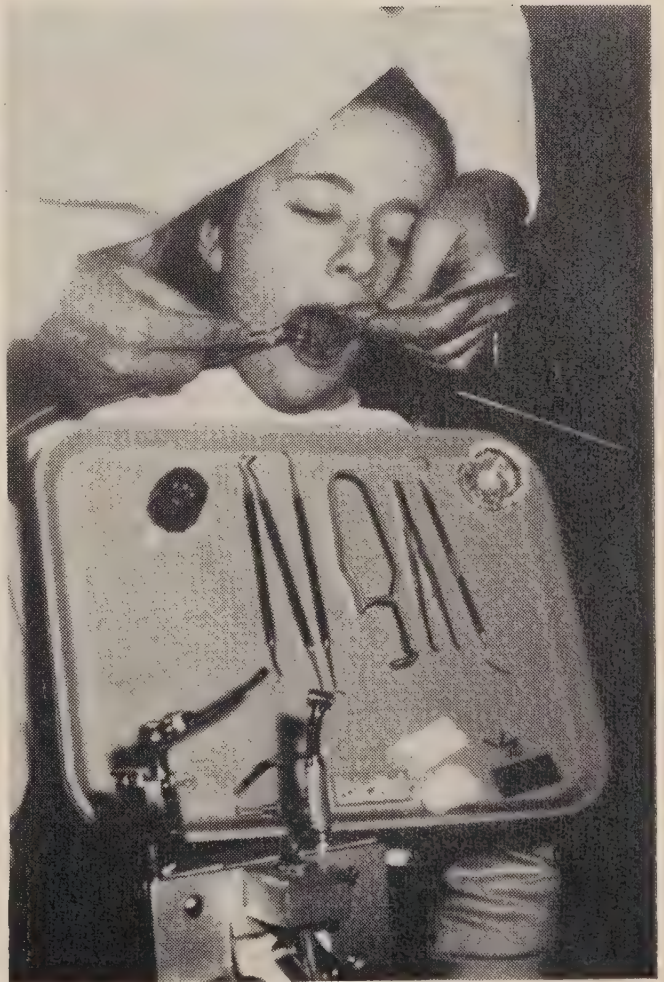
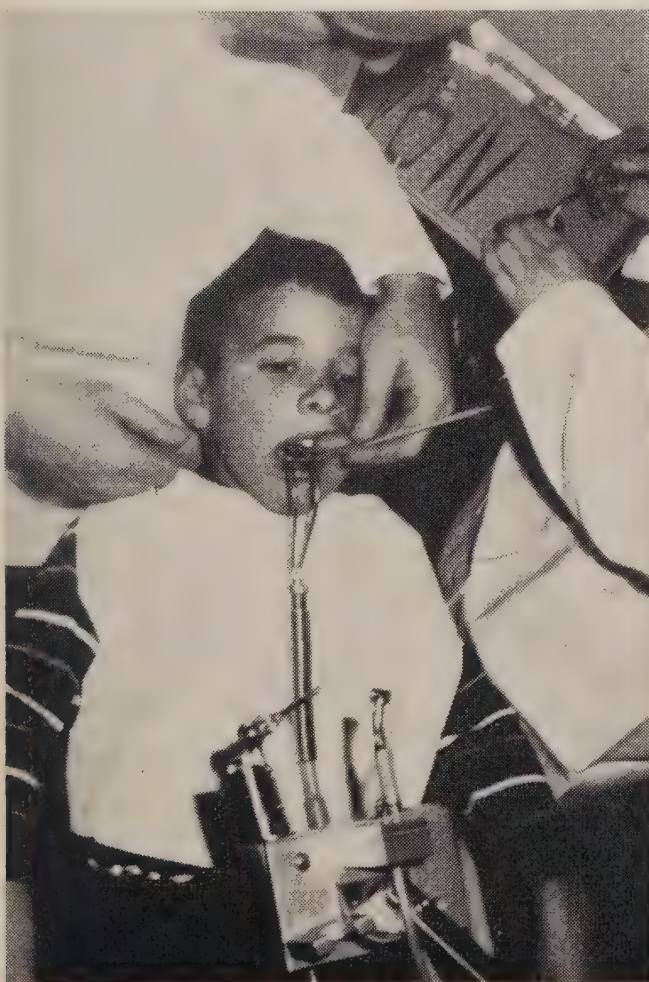
Since rubber dam application is described by another author in this series of articles, let us consider a tray prepared for amalgam restorations. Figure 3 illustrates such a tray. The individual dentist may wish to add other instruments or reject some of those illustrated. The tray shown in Figure 3 is merely an example of how such a tray can be organized. Seen from left to right are mirror dip, saliva ejector, carpule, disposable needle, syringe, mirror, explorer, college pliers, bur tool changer and three hand instruments colour banded (with

FIGURE 4 Tray illustrated in Figure 3 placed on a supporting base close to patient's left cheek.



FIGURE 5 (below l.) Tray illustrated in Figure 3. A dental assistant is available and the tray is placed in a position convenient to her.

FIGURE 6 (below r.) Tray illustrated in Figure 3. The dental assistant is momentarily absent. Therefore, the tray is positioned directly under the patient's chin, close to the dentist who can continue his work without interruption.



Minnesota Mining and Manufacturing Co. Scotch brand cellulose tape No. 471) according to their sequence of use. The upper part of the tray contains articulating paper, cotton rolls and pellets, bur block, matrix retainer and band. This tray is now placed on a supporting base tray, along the patient's left cheek (Figure 4) or behind the patient's head, whichever is more convenient. If a full-time chairside assistant is available, the tray is placed in a position which is convenient to her (Figure 5). Should the chairside assistant be momentarily required elsewhere during the insertion of an amalgam filling, the tray can be placed directly under the patient's chin. The tray's contents are then within the peripheral vision of the dentist. With amalgam in a Dappen dish, he can load the amalgam carrier himself without removing his eyes from the field of operation. Thus he continues his treatment with little interruption (Figure 6).

Although partially prepared trays are flexible and economical, it is expedient that some trays be completely prepared for certain procedures, such as prophyl-

axis, root canal therapy, rubber dam application, jacket crown preparations and inlay impressions. The dentist who uses partially or completely prepared trays will also find it advantageous to organize a supply area where cotton rolls, needles, syringes, and so forth can be found to load the trays.

A few minutes are spent every morning in determining the services to be performed for each patient that day. The assistant may then prepare the necessary trays. A work sheet can be prepared or notations inserted in the appointment book as follows:

8.30 a.m. John Doe Cr.
 9.30 a.m. Mrs. White Amal.
 10.00 a.m. Mr. Green Amal.
 10.30 a.m.—Mrs. Doe Cr.
 11.30 a.m. Emergency
 12.00 a.m. Lunch

Patients will appreciate the time saved through the use of prepared trays. To them it means more work per sitting and fewer visits to the dentist.

1455 rue Crescent

Canadian Clinicians Wanted at Foreign Meetings • Canadian dentists who would like to serve as clinicians and essayists or present a table clinic at a foreign dental meeting are invited to notify the Canadian Dental Association. Foreign dental societies periodically ask the C.D.A. for names of Canadian dentists who are prepared to participate in the scientific programs of their meetings. Interested dentists are invited to notify the secretary of the C.D.A., indicating the title and the type of presentation they are prepared to make. Write to W. G. McIntosh, secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

La digue, source de confort et de détente

Roger Grégoire,* D.D.S., Montréal, P.Qué.

La digue diminue la fatigue visuelle, musculaire et mentale associée à la dentisterie opératoire. Sa couleur foncée fait contraste avec la blancheur des dents et facilite la perception des détails des cavités en les mettant en relief, allégeant l'effort des yeux. La fatigue musculaire associée avec les rétractions nécessaires de la langue et des lèvres est grandement diminuée aussi. En arrêtant les différents mouvements et la salivation abondante elle diminue la tension nerveuse du dentiste aussi bien que celle du patient.

A rubber dam diminishes visual, muscular and mental fatigue associated with operative dentistry. Contrast between the darker tone of the rubber and the lighter shade of the teeth throws details of cavity preparation into sharp relief, thereby reducing eye strain. Muscular fatigue associated with necessary tongue and lip retraction is greatly diminished. By blocking various distracting movements and muscle contractions and by controlling salivation, the dam also diminishes nervous tension in the dentist.

Le saviez-vous? Plusieurs dentistes ont fêté en 1964 le centenaire d'une des plus belles inventions de la dentisterie moderne: la digue. En effet, c'est en 1864 qu'apparut pour la première fois ce petit morceau de caoutchouc qui devait par la suite faire couler tellement d'encre et enrayer tellement de salive. Depuis 100 ans, la digue est un sujet de controverse, son utilité est mise en doute. Par qui?

Par ceux qui ne l'emploient pas; les plus grands détracteurs de la digue se rencontrent parmi ceux qui n'y ont pas touché depuis leur sortie de l'université et qui n'en connaissent même plus la couleur (et pourtant, la couleur de la digue, comme nous le verrons plus loin, joue un grand rôle dans la diminution de la tension nerveuse chez le dentiste).

La plupart des dentistes admettent que la digue offre théoriquement un champ opératoire idéal, qu'elle permet l'exclusion parfaite de toute humidité. Ils savent

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que les rouleaux de coton permettent de contrôler pour quelques minutes la salive venant du vestibule; mais ceux-ci ne permettent pas de contrôler le suintement gingival. Une matrice, pressée contre la dent, aide, par capillarité, le suintement gingival à atteindre la portion gingivale de toute obturation; cette contamination est spécialement dangereuse pour les obturations en silicate.

Ce que les dentistes admettent plus difficilement toutefois c'est que la digue puisse jouer un rôle dans la diminution de la fatigue; sa mise en place nécessiterait un effort supplémentaire et ne serait par la suite qu'une cause d'ennui pour le dentiste et pour le patient (encore une fois, ces objections sont apportées par ceux qui n'emploient jamais la digue).

Premièrement, la digue diminue la fatigue des yeux. Le dentiste est confiné à un champ opératoire très restreint. Il doit pouvoir déceler tous les détails d'une cavité pratiquée dans une dent qui est elle-même enfouie dans la bouche. Il est évident qu'il doit par tous les moyens chercher à rendre meilleure et plus précise la vision de ce qu'il a sous les yeux. Or la digue, par sa couleur foncée, offre un contraste avec la blancheur des dents; ce contraste fait ressortir les détails de la cavité et en facilite la perception. Il en résulte pour les yeux une grande diminution de fatigue.

La digue apporte aux yeux un autre soulagement: l'absence du miroitement de la salive sur la muqueuse. Sans la digue, la salive, baignant continuellement les muqueuses de la bouche, reflète les rayons de lumière. Ces reflets ne peuvent que rendre plus ardue une vision nette du champ opératoire. La digue élimine ces reflets: la surface de la digue est mate et ne réfléchit pas la lumière.

Deuxièmement, la digue diminue la fatigue musculaire. Ici, la digue joue un rôle

simplement mécanique. Sans la digue, le dentiste est obligé de se frayer un chemin jusqu'à son champ opératoire. Ou c'est la langue qu'il doit retenir avec le miroir (les doigts les plus forts, sont parfois mis à l'épreuve par les nombreux muscles de la langue). Ou c'est la joue qu'il faut retenir et rétracter à force du poignet. Ou ce sont les lèvres qu'il faut repousser pour donner accès au champ opératoire.

Avec la digue toutes ces tracasseries et ces efforts musculaires disparaissent; l'élasticité de la digue suffit pour repousser doucement mais fermement les muscles de la langue, des lèvres et des joues.

Enfin troisièmement, la digue contribue à diminuer la fatigue nerveuse du praticien. Dans un bureau, plusieurs facteurs peuvent amener une augmentation de la tension nerveuse. Ainsi, le dentiste qui n'a pas d'assistante, voit la tension nerveuse augmenter chaque fois qu'il doit s'occuper de plusieurs choses à la fois; ce qui est fatigant et énervant, ce n'est pas le fait d'obturer une dent ou de prendre une empreinte, c'est plutôt le fait de vouloir répondre au téléphone ou à la porte en même temps.

Ainsi en est-il dans la bouche; tout ce qui peut distraire de l'opération en cours est une cause d'énervement et d'augmentation de tension nerveuse; les réactions inattendues du patient, les contractions des muscles, les mouvements de la langue, les haut-le-cœur, la salivation abondante sont là tous des facteurs étrangers à l'opération, mais qui s'y superposent et qui, répétés tout le long du jour deviennent une source évidente de fatigue nerveuse.

La digue, sans éliminer totalement tous ces ennuis, les diminue grandement, et les rend plus acceptables.

4535 rue Orléans

Oral evacuation

Donald Kepron,* B.Sc., M.Sc., Montreal, P.Quebec

Oral evacuating systems that employ the principle of the negative air stream are most efficient for use in washed field operative dentistry. High velocity aspiration removes all saliva, coolant-lubricant and debris. It eliminates the cuspidor. It provides a clear, clean field of operation. By allowing free use of coolant this system minimizes the possibility of pulpal damage. It permits full use of the contoured dental chair. This system satisfies all requirements for oral evacuation dictated by modern high-speed dental equipment.

Les méthodes d'évacuation qui emploient le principe de jet négatif d'air sont les plus efficaces en dentisterie opératoire. L'aspiration à haute vélocité enlève toute la salive, le lubrifiant-refroidissant et les débris. Elle élimine la nécessité du crachoir. Elle produit un champ d'opération clair et propre. En permettant le libre emploi d'un refroidissant, cette méthode rend au minimum les possibilités d'endommager la pulpe. Elle permet aussi l'usage du fauteuil relax. Cette méthode satisfait à tous les besoins dictés par l'usage de l'outillage moderne à haute vélocité, pour l'évacuation buccale.

The advent of high-speed operative equipment has revealed weaknesses in certain traditional items of dental equipment, notably the lowly saliva ejector. A cutting

tool, rotating at upwards of 200,000 rpm, requires a coolant-lubricant at the cutting surface to reduce the tremendous frictional heat generated and to keep the instrument free of the debris produced by the cutting or abrading. It is also necessary to cleanse sludge from the operating area in order to gain a clear view and guide the cutting tool accurately against the vital tissues. These requirements resulted in the Washed Field Technique whereby water is sprayed freely upon the rotating cutting tool.

Soon, however, new problems came to light. Standard saliva ejectors, which were originally designed for the removal of saliva accumulated during normal physiological flow, proved inadequate to cope with the quantity of water being applied. Water either overflowed in the patient's mouth, or the patient was compelled to swallow or spit continuously. The Venturi type of saliva ejector became obsolete; so did older dental units that could not evacuate the volume of water applied to the operative area.

The introduction of lounge-type chairs accentuated the problem. True, a patient lying supine in a contoured chair is more relaxed and less likely to be apprehensive. The dentist also benefits because he can observe the operative process directly from a comfortable, seated position. But the patient's supine position accentuates the need for rapid removal of the coolant-lubricant.

The negative air stream has proved to be the most efficient oral evacuating mechanism. This system is based on the principle of the household vacuum cleaner. As the air is drawn into the aspirator hose any debris or water present within the limits of the passing air stream is also drawn into the tube. The stronger the

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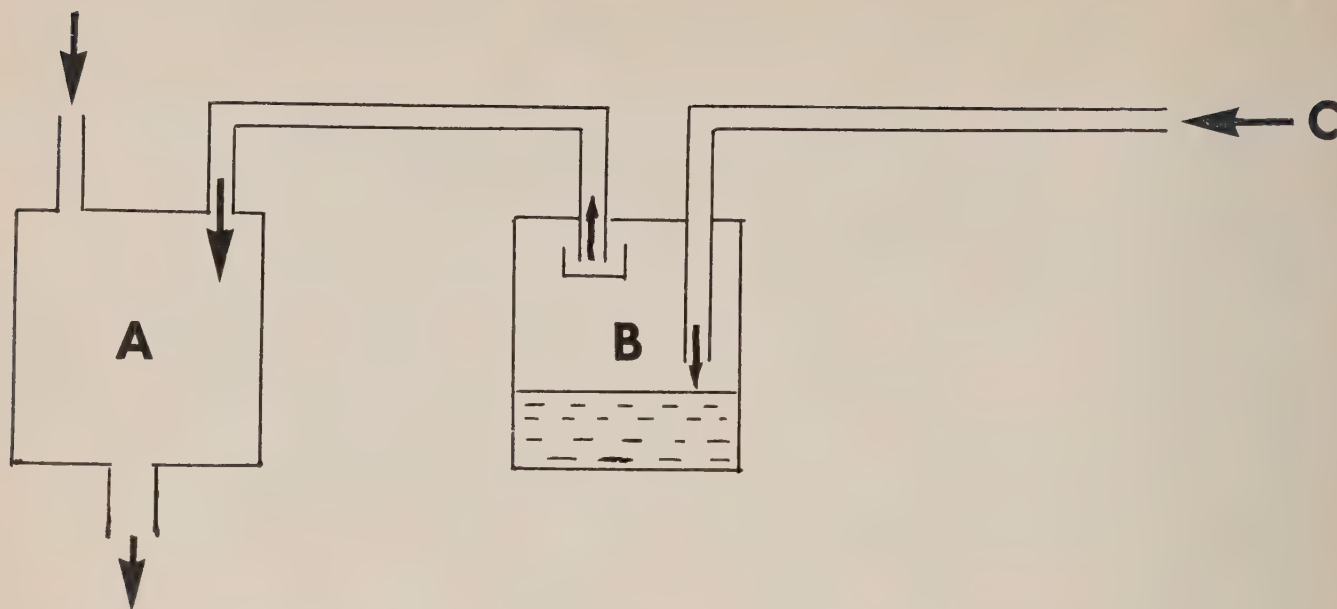


FIGURE 1 Schematic representation of a simple oral evacuation system. A, vacuum machine traversed by high velocity negative air stream. B, separating bottle in which fluid is retained. C, aspirating tube leading from chair side.

vacuum, i.e. the higher the velocity of the air stream, the greater the 'reach' of the aspirating tube. That is why a high-velocity suction machine can aspirate a column of water from the surface of a water filled

cup even if the aspirating tube is not directly immersed in the water. This is of tremendous advantage in the mouth since one need never touch the mucosa in order to evacuate all moisture and debris. The



FIGURE 2 Oral evacuating system used in the author's practice.

washed field can be kept dry by simply holding the aspirating hose close to the operating area.

Dentists who wish to experiment with the washed field technique can produce an extremely effective oral evacuating system by using a household vacuum cleaner with a separating bottle in which the fluid is retained. The water must not be allowed to pass onto the vacuum motor. Such a system is illustrated schematically in Figure 1 and as used in the office in Figure 2. The exhaust must be passed out of the building to prevent filling the operating room with contaminated air. To protect his eyes against water spray from the handpiece and from the syringe the dentist uses a loupe for closer scrutiny during the operative procedure. Both the dentist and his assistant wear face masks to protect them from being splashed by the water applied to the operating field (Figure 2). It is noteworthy that the writer has suffered no respiratory infections during the five years in which masks have been routinely used in his office.

The high-speed unit illustrated in Figure 2 is the Mid West Air Drive 400 set for maximum water spray at the handpiece. Measured water deposited by this spray is approximately 50 ml./min. The assistant, using the Star triple syringe, is applying a steady stream of water to the operating area depositing approximately 100 ml./min. The total of 150 ml./min. of coolant-lubricant plus all saliva secreted plus all debris produced, if allowed to accumulate for one minute, can be evacuated by this system in under two seconds. A well trained chairside assistant does not have to let a single drop of fluid trickle down the patient's throat.

With this system the assistant must remain constantly at chairside during the entire operative procedure. This means that a second roving assistant is almost mandatory. When two assistants are not available, the chairside assistant can be replaced by using an Erickson Vac-Ejector (Figure 3). The salient features of this appliance are the bite block and the throat guard which provide a comfortable resting position for the jaw and protect the throat against the coolant and debris.

SUMMARY

Oral evacuating systems that employ the principle of the negative air stream are most efficient for use in washed field operative dentistry. High-velocity aspiration removes all saliva, coolant-lubricant and debris. It eliminates the cuspidor. It provides a clear, clean field of operation. By allowing free use of coolant this system minimizes the possibility of pulpal damage. It permits full use of the contoured dental chair. This system satisfies all requirements for oral evacuation dictated by modern high-speed dental equipment.

3550 Côte des Neiges Road

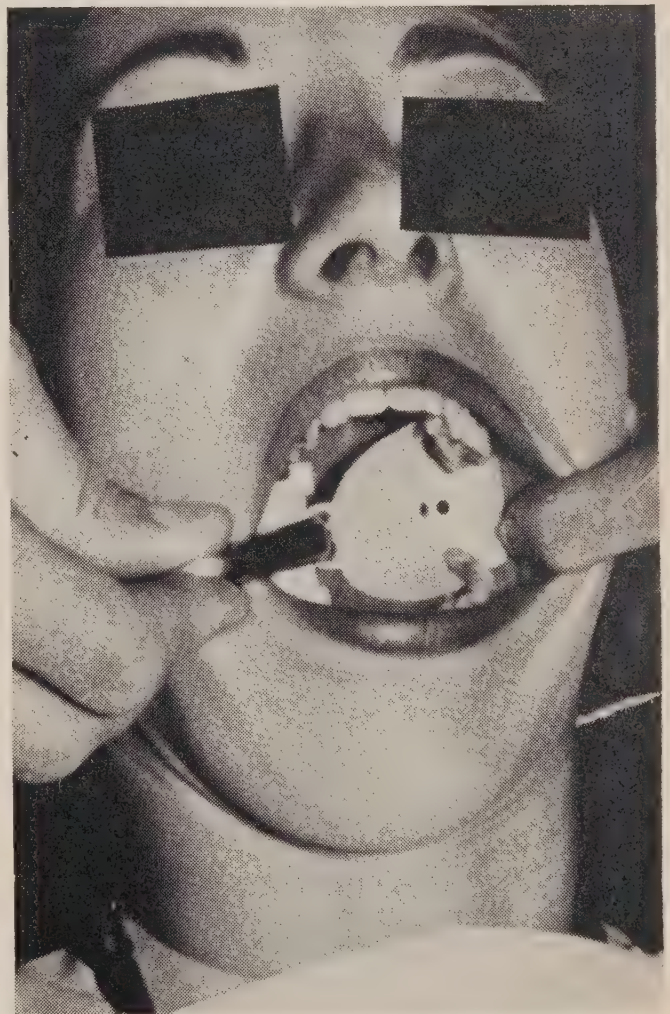


FIGURE 3 Erickson Vac-Ejector.



Prepared instrument tray

A basic armamentarium for isolation, tissue retraction, cavity preparation, insertion and finishing of Ferrier Class V gold foil restorations is described. Retraction materials and the various rotary cutting instruments are accommodated in accessory sectional containers which may be introduced to or removed as required from the tray containing the remainder of the basic armamentarium.

Voici une description de l'ensemble de l'instrumentation de base nécessaire à l'isolation, à la rétraction des tissus, à la préparation de la cavité, à l'insertion de l'or mou et cohésif, et au finissage pour les obturations aurifiées de classe V, d'après la méthode de Ferrier. Les matériaux de rétraction et les divers instruments rotatoires tels que fraises, meules, disques abrasifs et disques à polir, sont disposés dans des récipients sectionnés qui peuvent être placés sur ou enlevés, au besoin, d'un plateau contenant les autres instruments de base.

Common problems associated with treatment of the gingival third of the clinical crown have been described by Rosen and Gordon and by Ambrose.¹⁻³ The suggested armamentarium for Class V gold foil restorations is based on the requirement for proper isolation of the operative field using conventional dark rubber dam of suitable gauge. This dark background provides necessary contrast when working in a confined area. The dam also facilitates access, visibility and dryness.

The following principles govern the treatment of lesions in this part of the clinical crown:

1. Reduce surface decalcification and/or superficial root caries and polish adjacent tooth structure so that the cavity preparation, if still needed, may be as conservative as possible (Figure 1).³

2. Relationship of soft tissue to the cavity outline:^{2,3} If periodontal therapy is required Class V cavities should first be restored with sedative dressings. A permanent restoration can be completed with better biomechanical results after the soft tissues recover (Figure 2).²

†Chairman, Department of Operative Dentistry, Faculty of Dentistry, McGill University, Montreal.

3. Ferrier Class V gold foil restorations

E. R. Ambrose,* D.D.S., Montreal, P.Quebec

3. Bicuspid and anterior teeth: When possible, at least two teeth distal to the tooth to be restored should be included in the initial isolation. This facilitates application of the anchorage clamp, and permits unobstructed placement of the retraction clamp. Isolation for anterior teeth, bicuspid, and at times the first molar, should be completed before cavity preparation is begun.

4. Molars in young patients or molars with short clinical crowns on adults where the cavity preparation is confined to enamel: This preparation should *precede* isolation in many cases. Occlusal, mesial and distal extension is completed to ideal depth and the cavity is extended to, or slightly beyond, the crest of the buccal gingiva. Next, the buccal soft tissue must be assessed for its 'retraction-potential.' It is to our advantage to use as wide a clamp (M-D) as possible in these cases. The removal of 1-2 mm. (and often more) of hyperplastic tissue with a sharp Ferrier type spoon excavator aids in exposing the gingival portion of the preparation (Figure 3).³ The pressure of the jaw of the clamp and the seal of the rubber dam effectively control most haemorrhagic tendencies. This approach is particularly beneficial when the Class V molar preparation is in the most distal tooth of the

quadrant and the clamp used for retraction must also hold the dam in position.

5. Molars with exposed cemento-enamel junction: Here, the preparation involves root structure. Anatomical variations in root form may be evident. Cavity preparation should be confined to the involved root and proceed as for bicuspid and anterior teeth.

6. Infrequently encountered Class V lesions on lingual surfaces are treated similarly to buccal lesions on the corresponding teeth. Impaired visibility, difficult access, and awkward hand and chair positions, however, necessitate individual modifications. Consequently, gold foil has very limited application in these cases.

7. Upon completion of the restoration, and while the rubber dam is still in place, apply a fluoride solution to the area of the restoration as well as to other tooth structure in the same quadrant that has been conservatively treated.

BASIC ARMAMENTARIUM FOR CAVITY PREPARATION

Efficient treatment is enhanced by a pre-arranged set up of instruments and

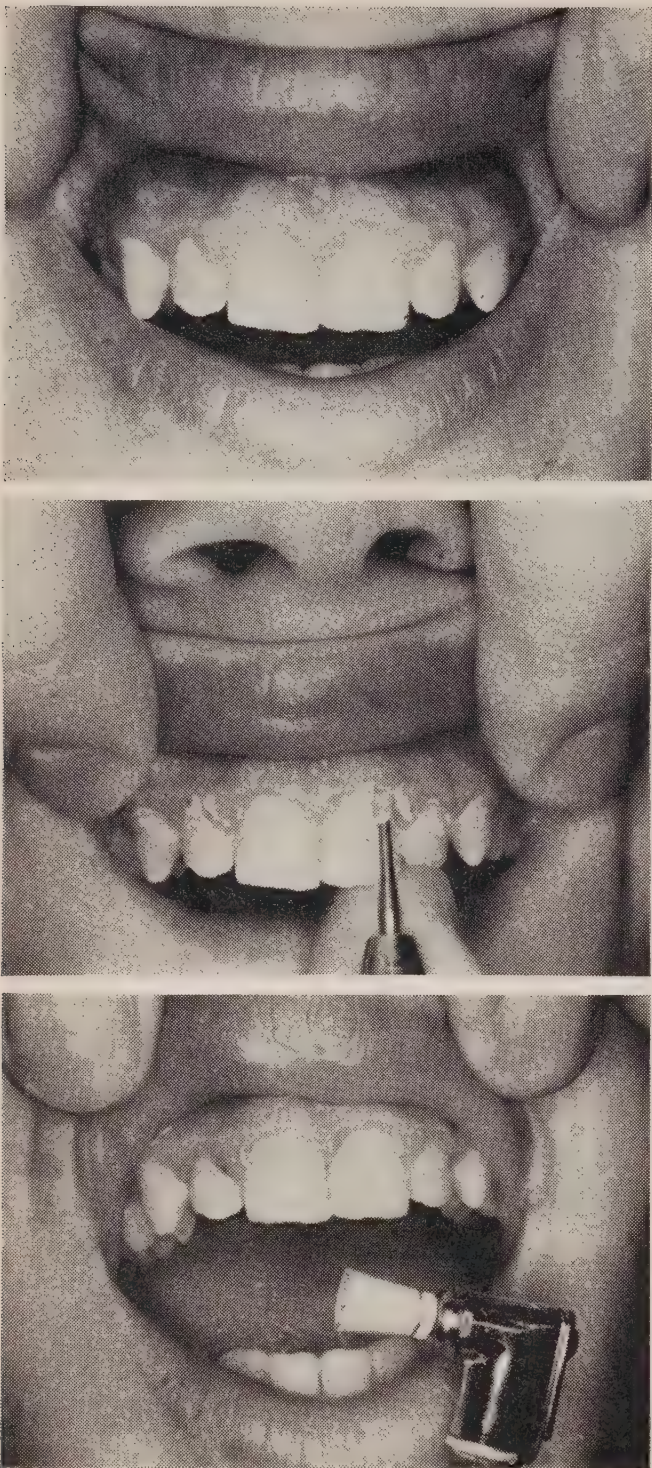


FIGURE 1 Superficially decalcified gingival enamel is removed by large plug finishing burs. The enamel surface is then polished with a prophylaxis cup and zirconium silicate and treated with a fluoride solution. This is the most conservative form of treatment for lesions in the gingival portion of the clinical crown.

materials to be used for a given procedure. A basic armamentarium is recommended for isolation and preparation of Class V cavities. Choice of the restorative material, sometimes deferred until the preparation is completed, governs the make-up of subsequent instrument trays.

The following items for a suggested basic armamentarium are arranged systematically as illustrated in Figure 4:

Dark rubber dam of suitable gauge, 5 by 5 and 6 by 6 inch sheets.

Rubber dam punch.

Rubber dam clamp forceps.

Young's rubber dam holder.

Disposable saliva ejector.

Brushless shaving cream for lubricating the rubber dam prior to placement.

Suitable short-beaked sharp scissors.

Dental floss (preceded by the use of abrasive strips if necessary).

Dry retraction cord or pledgets saturated with 8 per cent racemic adrenaline or a suitable substitute.

Triangular wedges (Getz) and triangular pieces of matrix material.

Stick compound for clamp stabilization.

A selection of rubber dam clamps.

Burs.

Hand instruments.

Copal varnish (Copalite, Bosworth) preceded by the use of a steroid solution such as prednisolone.⁴

The dry retraction cord and pledgets, the triangular wedges and pieces of matrix material, and the various rotary instruments used for preparation, insertion and finishing procedures can be accommodated in small sectional containers (Figure 8). Such containers may be introduced to and removed as required from the tray containing the remainder of the basic armamentarium.

RETRACTION AND ISOLATION

The contacting proximal surfaces should be tested with floss before placement of the dam. It is sometimes necessary to reshape or remove rough surfaces with an abrasive strip or gold knives so that the interseptal portion of the dam may be seated without tearing. A short thumb nail or plastic instrument makes an excellent instantaneous wedge when attempting to slide the dam between contacting proximal surfaces. A combination of simply stretching the interseptal dam over a contacting area, a thumb nail for slight separation, and dental floss will usually take care of any situation. Ingraham has published an excellent atlas de-

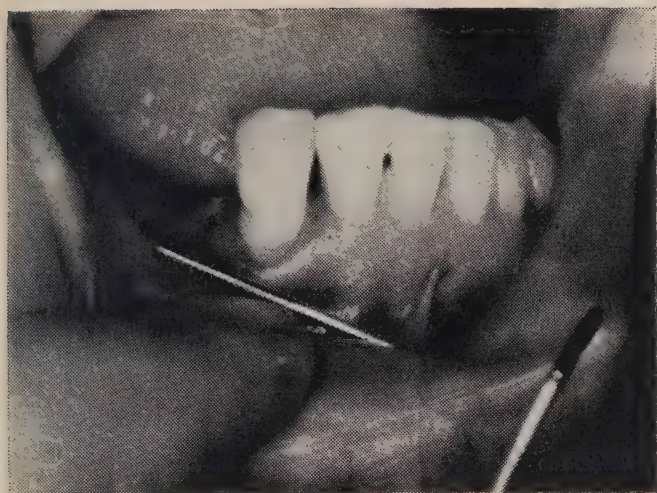


FIGURE 2 Combination Class III — Class V carious lesion. The cavity was partly prepared and gingivectomy performed three weeks previously. The partial preparation aids in retaining a periodontal pack in place.

scribing application of the rubber dam and insertion of gold foil restorations.⁵

An area that is properly isolated with rubber dam alone leaves little to be desired. Certain situations, however, call for additional measures. If, for example, the dam lacks perfect interproximal adaptation, retraction cord or pledgets and/or a wedge can be used to control slight seepage rather than changing the dam. Problems also arise in connection with Class V preparations in abutment teeth of a fixed prosthesis. There are several ways of securing the dam around a soldered joint.⁵ In some cases simple isolation and retraction of the soft tissue about an abutment tooth and/or judicious application of retraction cord, a wedge and compound, a triangular piece of matrix material, or any combination of these will isolate the area satisfactorily. Another difficulty may arise in molars with extensive root caries. Anatomical variations of the area where root structure blends into the anatomical crown can allow a small amount of seepage. A little retraction cord or a pledget packed into such an area seems to control this nicely and permits

use of a molar clamp for isolating a wide lesion, if necessary.

The following clamps achieve retraction. They may be used along with retraction cord, pledgets, wedges, and/or matrix material:

The Ferrier 212 (S. S. White) Clamp is designed for retraction on the buccal or lingual aspect of anterior teeth, bicuspid, and at times molars (Figure 5). One usually needs several of these versatile, flexible clamps so that the jaws may be ground, shaped and bent to suit the several conditions encountered when isolating the cervical area.⁵ At least one wing (and when possible both wings during condensation of gold foil) should be securely blocked with compound.

No. 00 (Ivory) Clamp is in essence one-half of a No. 212 clamp, and equal to the latter for its usefulness in rubber dam work (Figure 6). Again, several of these clamps should be available for use on anterior teeth, bicuspid, and for use singly or in pairs on molar roots. The wing can be directed mesially or distally and securely blocked.

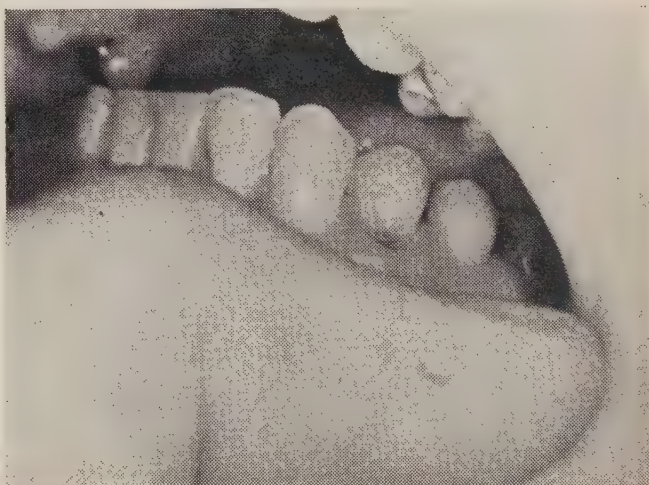


FIGURE 3 Enlarged gingival tissue associated with the Class V lesion on the lower first bicuspid. Removal of the enlarged tissue results in a better exposure of the lesions and returns the sulcus depth to normal prior to clamp placement.

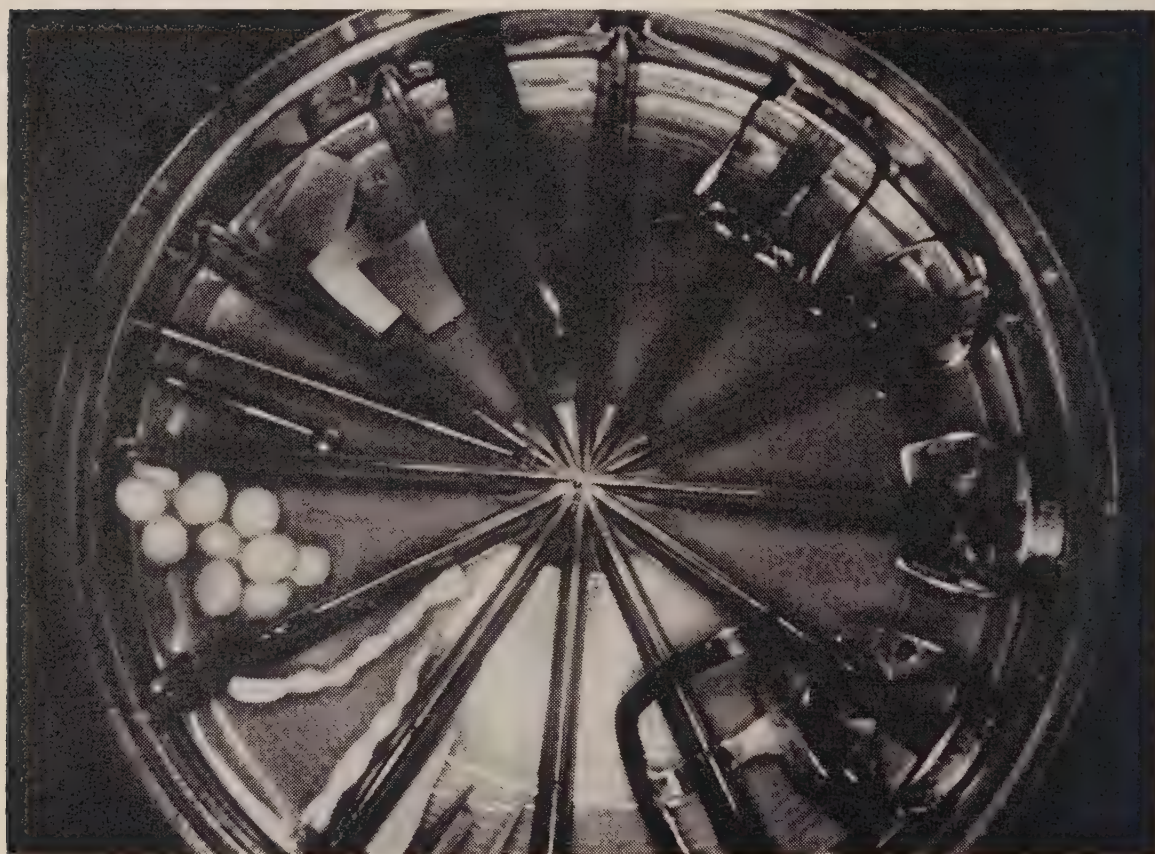


FIGURE 4 Tray arrangement for Class V cavity preparation. The sectional container holds instruments and materials that complement each other, such as isolation and retraction materials.



FIGURE 5 S.S.W. No. 18 or 26, Ivory No. 00, and S.S.W. No. 212 clamps used in conjunction with compound and occasionally with wedges and retraction cord solve many retraction and isolation conditions.

Schultz (Ivory) Clamps — S1, S2, S3,⁶ similar to the Ivory No. 00 clamp, are much stiffer and are designed to allow for alveolar ridge contour and maximum exposure of the area isolated. Being more rigid, they can serve as anchorage and retracting clamps on the most distal molar when indicated, or on a bicuspid under the same conditions.

No. 18 or 26 (S. S. White) Clamps are generally used as anchorage clamps on the most distal maxillary or mandibular adult molars. When necessary they can also be used to expose a broad cervical area in conjunction with tissue removal.

No. 27 (S.S. White) Clamp is used as an anchorage clamp on bicuspids, cone shaped maxillary second and third molars, and partially erupted small molars.

Most currently used clamps are smooth winged or wingless. This facilitates placement of the dam and reduces the risk of tearing the dam when easing the rim of the punch hole over this portion of the clamp. To obtain anchorage we tend to position the most distal clamp first while maximum visibility prevails. Once this clamp is in place the corresponding hole in the dam is slipped over the bow and then on the wings in one smooth motion. The remainder of the dam is then placed in the conventional manner.⁵

CUTTING INSTRUMENTS FOR ANTERIOR TEETH, BICUSPIDS AND MOLAR ROOT AREAS

The following Ferrier hand instruments and rotary instruments are used for cavity preparations in these teeth:



FIGURE 6 Ivory No. 00 clamp applied to the mesial root of the lower first molar. The tension on the tissue and dam at this point is often sufficient to effect isolation of the distal root as well.

Wedelstadt Chisels — 15, 15, 3 or *Bin-Angled Chisels* — 15, 15, 3 are used to remove undermined enamel in extensive lesions and also to plane the enamel rods and establish the degree of bevel necessary on the occlusal wall of the preparation.

Hoes — 6½, 2½, 9 or 10, 4, 8 are used for refining the mesial, distal, occlusal and gingival cavity walls, and for planing the axial wall to an even contour.

Angle Formers — 9, 80, 4, 8 or 12, 80, 4, 8 are used to produce or refine all line and point angles. They also establish the degree of retention necessary at the gingivo-axial line and point angles, and at the occluso-axial line and point angles. The 'degree of retention' will depend on the extent of the Class V preparation in an occluso-gingival direction; that is, the more extensive the cavity becomes, the more retentive the preparation should be.

Contra-beveled Angle Formers — 9, 80, 4, 8 or 12, 80, 4, 8. The formula of this instrument is identical to that of the conventional angle former, but the cutting edge is sharpened and directed opposite to that of the conventional instrument. The contra-beveled angle former is used for the distal wall and associated angles of Class V cavities in molars where the conventional angle former is often at a disadvantage.

Inverted Cone Burs — 33½ or 34 (straight handpiece, slow speed) are used for establishing the gingival, mesial, distal and occlusal walls in sequence.⁵ These burs permit (1) removal of a minimal

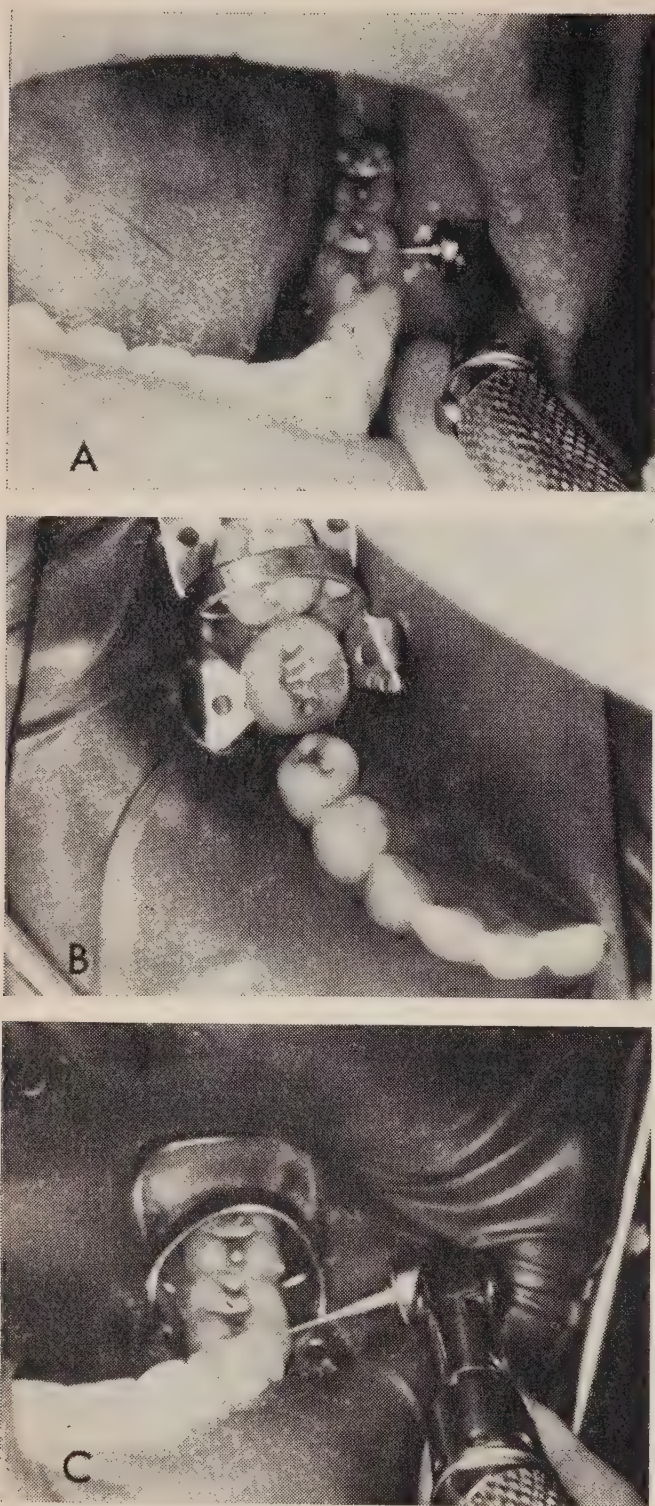


FIGURE 7 Sequence for preparing extensive Class V cavities on molars with short clinical crowns. A, Outline of lesion to crest of gingiva. B, Isolation of quadrant and retraction clamp in place. C, Miniature C.A. head and regular length C.A. bur for access. Alternatively, use a straight handpiece.

amount of tooth structure, and (2) location of the cavity preparation in proper relationship to the retraction clamp, rubber dam, and ultimately the soft tissue.

Busch Round Burs — 5/0 or 6/0 are useful for defining the internal angles prior to accentuation with angle formers.

The bevel on the occlusal wall is accomplished by a combination of hand instruments and a $\frac{3}{8}$ inch medium grit Moyco sand paper disk mounted on a midjet Densco mandrel. The degree of bevel varies according to the type of enamel receiving an occlusal cavo-surface outline; that is, the better calcified the enamel is, the shorter the bevel. In any case the cavo-surface angle should be even and well defined throughout.

The following approach is effective when the lesion and eventual preparation are entirely located in enamel and are extensive mesio-distally:

1. Use miniature burs 37 and 558 in a miniature slow speed contra-angle handpiece. (Where access permits, a miniature turbine handpiece can be used with smaller diameter burs.) Prepare the occlusal, mesial and distal walls to ideal depth, thus establishing the basic outline form to the crest of the gingiva before isolating with a rubber dam.

2. Isolate the quadrant with a suitable clamp and rubber dam. Then select a clamp to expose this particular type of Class V preparation. (Remove any enlarged soft tissue prior to placing this clamp. You thereby expose subgingival caries and allow for the application of a wide jaw clamp.)

3. Finish the preparation with the miniature contra-angle handpiece, using miniature or regular length contra-angle burs. Alternatively, one can often approach and finish a cavity in this area, when isolated, with a straight handpiece (Figure 7).

4. Finish internal angles and walls as previously outlined. Removal of carious material situated beyond ideal cavity depth is accomplished with sharp round burs revolving at slow speed and with sharp spoon excavators. (Star Dental Manufacturing Company markets a diamond grooved stone that is excellent for maintaining a sharp edge on carbon steel spoon excavators. Clinicians who do not routinely sharpen such instruments should use Ash-England tungsten carbide angle formers, gingival margin trimmers, and spoon excavators.



FIGURE 8 Tray arrangement of materials and instruments used for finishing Class V restorations.

INSTRUMENTS FOR INSERTION AND FINISHING OF MAT AND FIBROUS GOLD FOIL

A combination of mat gold foil for the bulk of the filling and a veneer of fibrous gold foil cohesive cylinders makes Class V restorations much easier to do for both patient and dentist. These materials are consolidated with an electronic condenser (McShirley Electro-Mallet) operating at high frequency and low intensity. The insertion and finishing of gold foil is well illustrated by Ingraham.⁴ A simple armamentarium for inserting gold foil would include:

1. An electronic condenser and a suitable selection of condensing points or nibs: (a) .5 mm. condenser point for condensing line and point angles; (b) .8 mm. condenser point for building the body of the foil restoration; (c) a foot-type condenser for contouring and condensing the surface of the restoration. (Both straight handpiece and contra-angled points are necessary in the size range mentioned.)

2. A set of Ferrier No. 9 and No. 10 parallelogram hand condensers (Suter Dental Manufacturing Company).

3. A gold foil fork. This can be made from a broken hand instrument.

Armamentarium for finishing the restoration would include (Figure 8):

1. Ferrier No. 29 and No. 30 gold knives.
2. Double ended push and pull gold files.
3. Midget (or small headed) mandrels for straight and contra-angle handpiece.
4. Coarse, medium, and fine $\frac{3}{8}$ inch Moyco sand paper disks.
5. Rubber prophylaxis cups and contra-angle handpiece.
6. Dry flour of pumice or zirconium silicate (Zircate; Caulk)⁶ followed by tin oxide.
7. Lubricant for dam at foil margins.

All rotary finishing procedures should be done with a brushing motion over the foil and margins, at the slowest speed and in a gingivo-occlusal direction. Instruments must not be held against the tooth or rubber dam for more than one or two seconds at a time. Most problems of hyper-

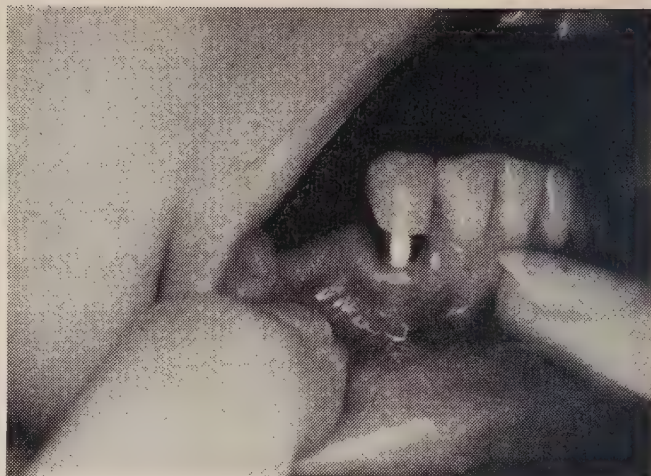


FIGURE 9 The isolation employed for and the finished restoration of the tooth illustrated in Figure 2, eight weeks after gingivectomy.

sensitivity arise from over-heating during finishing procedures, and/or improper condensing technique. The gingival margin should be finished with hand instruments only, rotary instruments being kept occlusal to this critical margin. A little lubricant (Masque-Bosworth Company) placed on the dam at this time will prevent tearing and catching of the dam when using disks and rubber cups (Figure 9).

SUMMARY

A basic armamentarium for isolation, tissue retraction, cavity preparation, insertion and finishing of Ferrier Class V gold foil restorations has been described. Inclusion of the various instruments is justified by a description of their use in connection with such restorations. Retraction materials and the various rotary cutting instruments are accommodated in accessory sectional containers which may

be introduced to or removed as required from the tray containing the remainder of the basic armamentarium.

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Prepared kits for endodontic treatment

Endodontic treatment can be greatly simplified by having in readiness prepared kits of sterilized instruments and supplies. The system here described consists of an Endo Bag for hand instruments and supplies that can be autoclaved and an Endo Block which accommodates medicaments, filling materials and hand instruments that must be sterilized.

■

Le traitement endodontique peut être grandement simplifié si l'on a sous la main une trousse préparée à l'avance contenant des instruments et matériaux dentaires préalablement stérilisés. La systématisation décrite ici consiste en des enveloppes ou sacs de papier Kraft pour les instruments et matériaux qui peuvent être placés dans l'autoclave et aussi des blocs de matière plastique (Endo Block) qui peuvent contenir les pièces à main, les contre-angles, les matériaux à obturations qui doivent être stérilisés.

The purpose of work simplification is to perform a given course of treatment in the most effective and efficient manner with a minimum of effort and for the

least expenditure of time. The time thereby saved need not necessarily be allocated to perform more chairside services; it can also be used for relaxation or other non-dental purposes.

Effective work simplification in endodontics depends on an appreciation of the true objectives of endodontic therapy. Too many dentists still confuse the aetiology of the problem with the problem itself. The elimination of micro-organisms from the root canal, though important, is not the main objective in restoring an endodontically involved tooth to health and function. Although bacterial invasion is one of many causes of pulp death, sterilization of the canal alone will not restore the affected tooth to health. Equally significant in the attainment of successful results are the removal of root canal contents and shaping of the lumen, and obturation of the canal.

Work simplification as applied to these three aspects of endodontic therapy forms the subject of this paper.

ENDODONTIC KIT SYSTEM

There is probably a greater variety of endodontic instruments, medicaments, materials and supplies than for any other phase of dental care. Because of their varied nature these are scattered throughout the dental cabinet. I have developed a system for routine conservative endodontic treatment which can be called into service at a moment's notice. The com-

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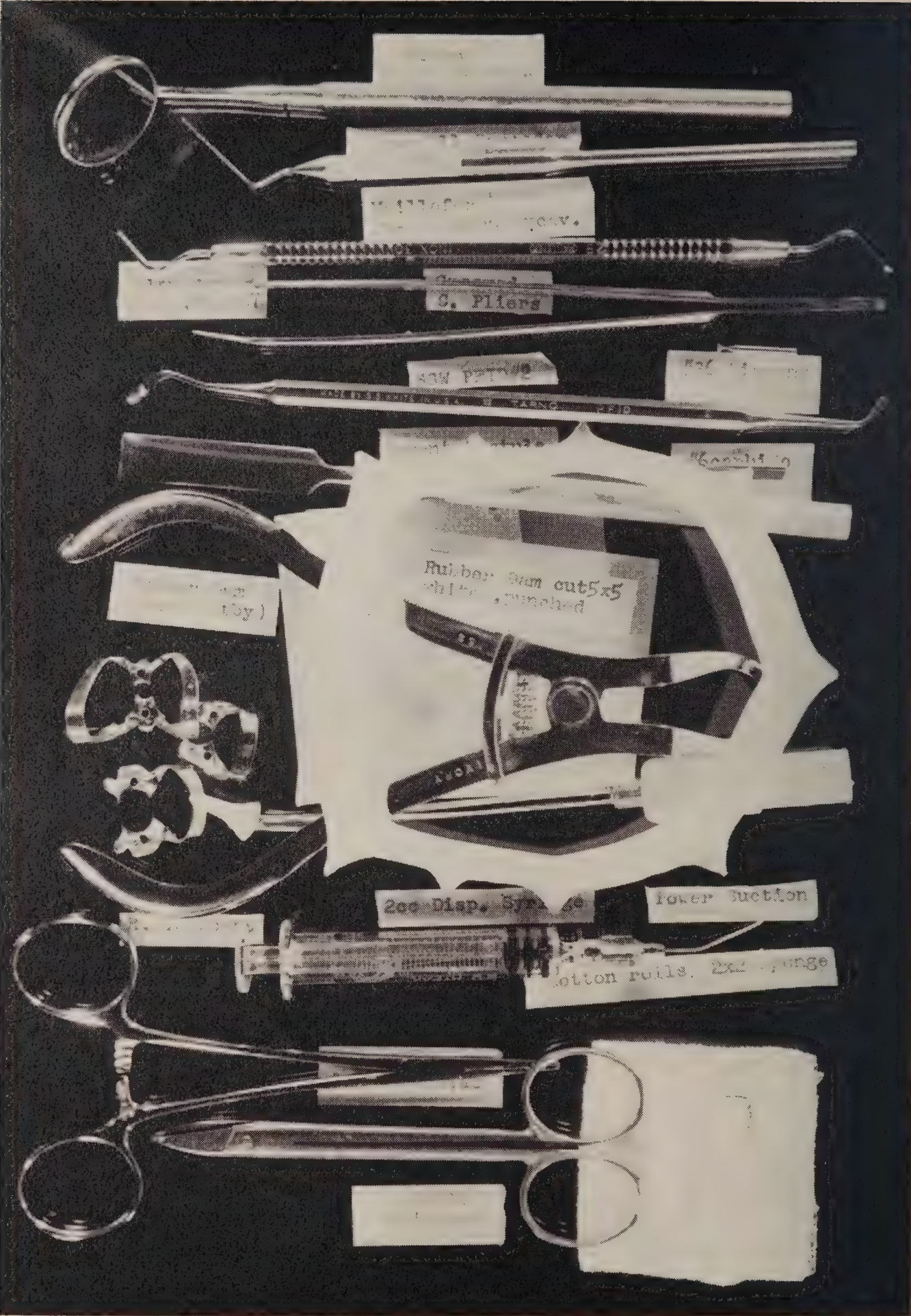


FIGURE 1 Content of the Endo Bag.

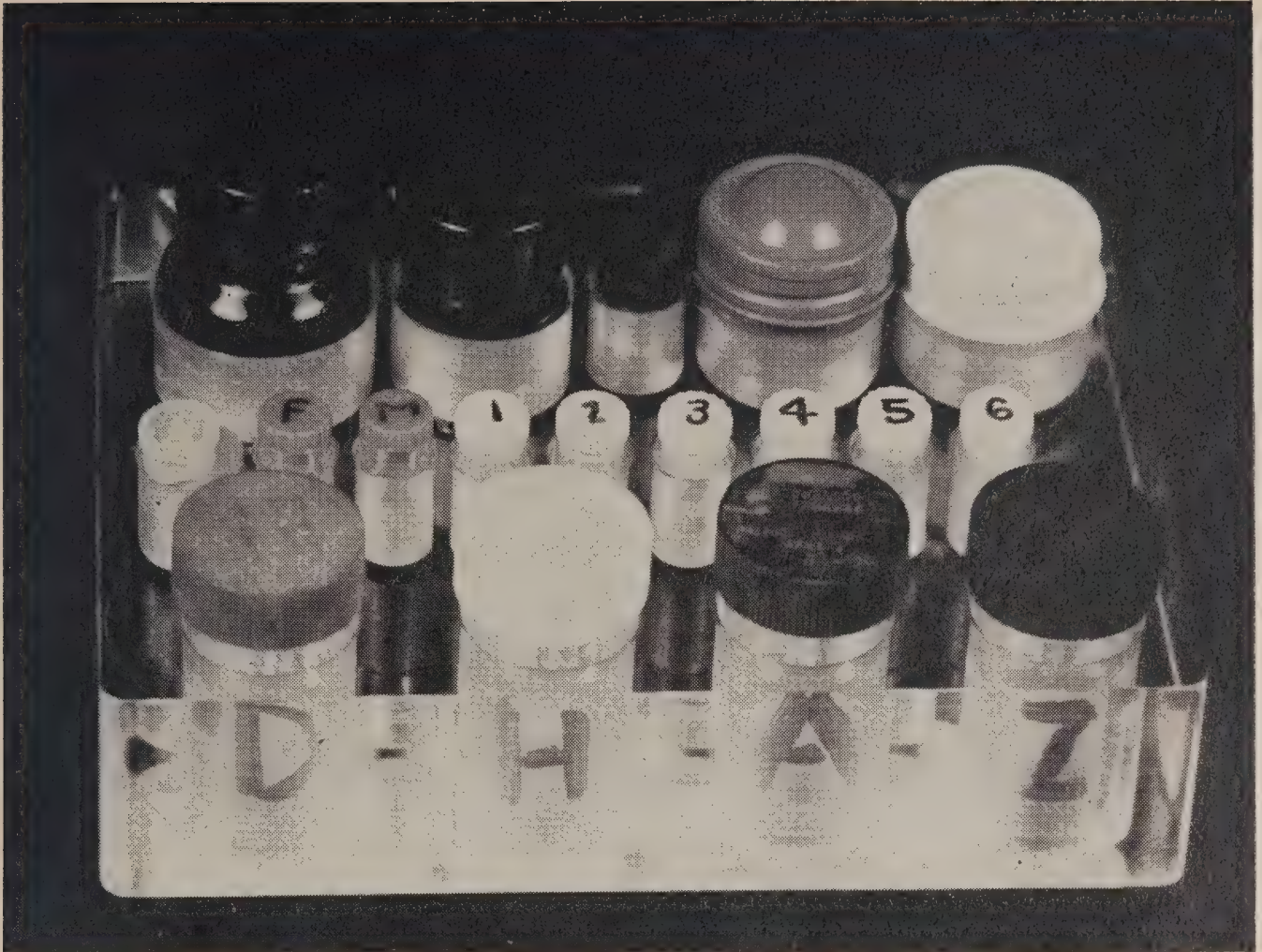


FIGURE 2 Plexiglas Endo Block. Front row containers for Dakin's solution, hydrogen peroxide, alcohol and benzalkonium chloride. Middle row containers for temporary seal, gutta percha and silver points. Rear row containers for camphorated para-mono-chloro-phenol and root canal sealer; also aluminum Patient Pack cans (right).

ponents of this system are prepared and sterilized in advance by the dental assistant. The system described is a guide for general practitioners and may be adapted to suit individual preferences.

The endodontic kit consists of two elements: (1) the Endo Bag containing hand instruments and (2) the Endo Block of supplies.

The Endo Bag holds all the hand instruments and supplies which can be autoclaved. These include (from above downwards in Figure 1):

Front-surface mouth mirror.

Star D 11 root canal spreader (which also serves as an explorer).

Maillefer spoon excavator No. 29-30 (long shaft).

Grooved college pliers.

S.S. White PFID No. 2 plastic filling instrument.

Cement spatula.

No. 36 diamond instrument (for opening teeth, and cutting off excess silver point in the pulp chamber).

No. 6 round bur for making the occlusal opening into the pulp chamber.

Rubber dam frame (Ostby type recommended; this does not interfere with radiographs).

Rubber dam, white, 5 by 5 inches, pre-punched hole about one inch in from centre line of one side. White dam is preferred for its light reflection qualities.

Three rubber dam clamps: Ivory Nos. 9 and 14; S.S. White No. 27 (the bicuspid clamp may be used on a molar if necessary).

Rubber dam clamp forcep.

Power suction tip. An adaptation of a "Multislot" saliva ejector is illustrated. The tip is unscrewed and replaced by a

rubber Spirojector "Surgitip." This device is connected to the power suction machine by means of the saliva ejector adaptor supplied with the unit.

A 2 ml. glass disposable syringe (B-D Hypak - S) and Luer-Lok 20 gauge needle with 120 degrees angle bend. Although the syringe is not discarded, it is no great loss if it accidentally breaks.

Small straight haemostat for handling silver points.

Scissors S.S. White No. 10.

Exodontia sponge 2 by 2 inches.

Several cotton rolls.

Towel (not illustrated in Figure 1).

These instruments are placed in an ordinary Kraft paper envelope, sealed with masking tape, and autoclaved. At the end of the sterilizing cycle, the steam is released and the bag will dry out in the autoclave in a few moments.

The EndoBlock (Figure 2) is a block of Plexiglas 5 by 8 by 1¾ inches, with a number of wells to accommodate variously shaped bottles.

The front four wells contain non-spillable urine sample bottles (obtainable from any insurance company), their tops colour-coded with marking ink. These contain Dakin's solution, hydrogen peroxide 3 per cent, alcohol, and benzalkonium chloride (Zephiran). In the Zephiran may be stored several small pieces of gutta percha stopping.

In the second row are wells for a tube of Cavit temporary seal, tubes of fine and medium gutta percha points, and tubes of silver points.

The rear row wells hold bottles containing camphorated para-mono-chlorophenol, Kerr Root Canal Sealer powder and liquid, and two 'Patient Pack' cans. Each of these small cans (used for packaging 35 mm. colour film) accommodates a set of files and/or reamers intended for use with a particular patient. The patient's name and date when treatment commenced are written on adhesive masking tape and applied to the can. Between treatments these files with adjusted Ostby stoppers are stored and heat sterilized in the aluminum cans. If desired, two or three paper points and some cotton pellets can be placed in each can and sterilized together with the files. Sets

of new unused instruments may also be sterilized in these cans in readiness for immediate use when the occasion arises. If a file becomes worn or spoiled, it can be replaced by another instrument from the spare can which, in turn, is refilled prior to sterilization. Dentists who use the 'bead type' sterilizer may drill additional wells into the block to accommodate spare files.

ARMAMENTARIUM

The cheapest items in dental practice are instruments; the most expensive is time. The hand instruments here described are basic and are to be used as a guide. Personal preferences may dictate additions or substitutions if these pass the test of efficiency, effectiveness, and necessity.

The number of bags of hand instruments required to be on hand depends on the frequency of endodontic sessions. If two endodontic treatments are performed in a morning or afternoon, then three bags (one additional bag to take care of an emergency) should be prepared. These bags can be made up again and autoclaved by the assistant at the end of the morning or afternoon.

The sealed Endo Bags and Endo Block can be stored in a suitable drawer in the dental cabinet. The Endo Block should fit this drawer. The intact Endo Bags will remain sterile for a considerable time.

Whenever an Endo Bag is required, the end of the envelope is torn off and the sterile towel contained in the Bag is placed on a bracket table, Mayo tray or other suitable surface. The remaining contents of the Bag are then deposited under the folds of this sterile towel.

Patient Pack.—Many a dentist who is prepared to disburse between one-quarter and one-third of his fee for a gold inlay in laboratory charges, hesitates to spend less than \$2 for a new set of files. This constitutes a false economy. Worn instruments do not cut efficiently and, when force is employed, shoulders or false canals are made and instruments

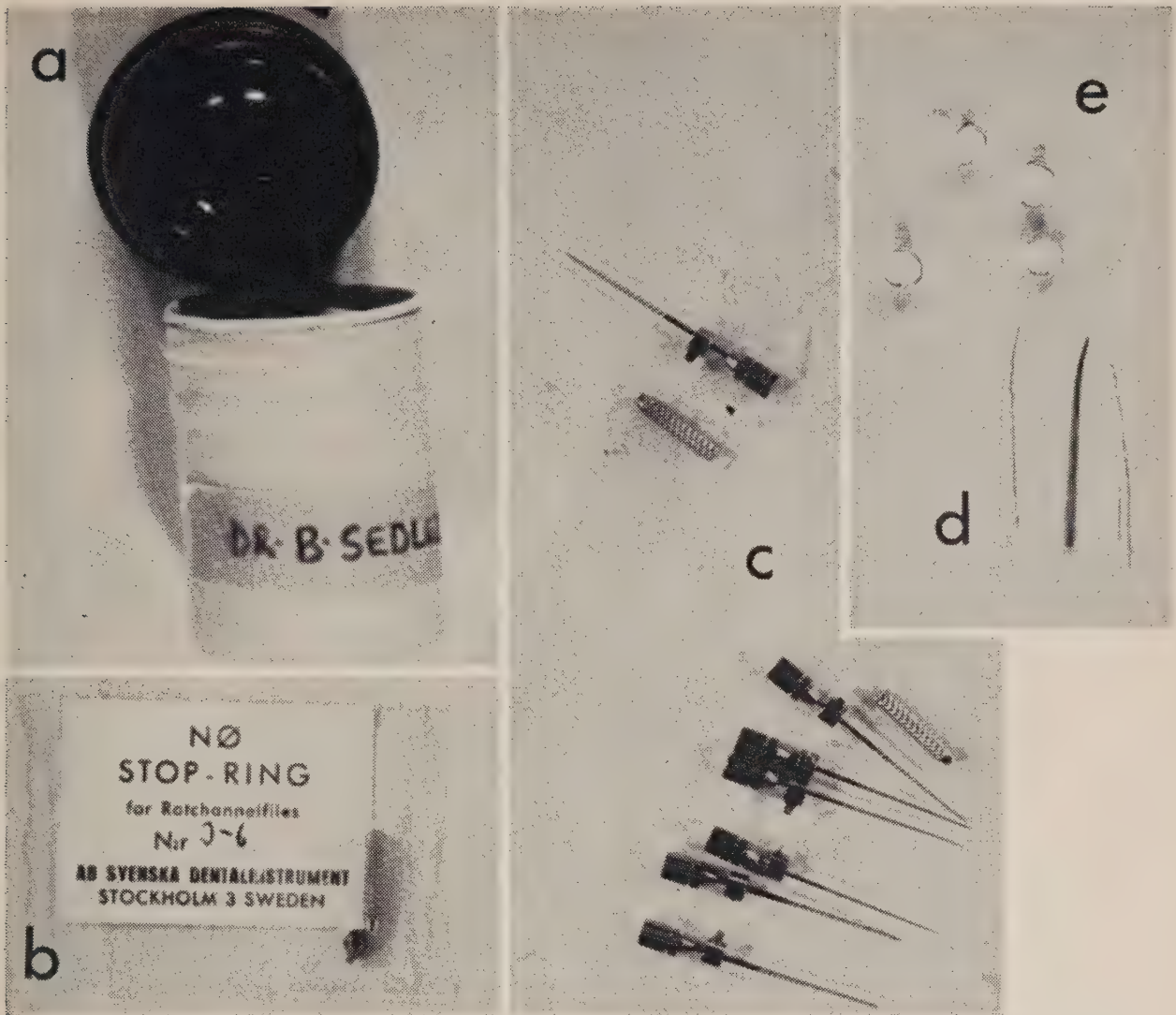


FIGURE 3 Contents of the Patient Pack containers (a) are files (c) with stops (b) and (c), paper points (d) and cotton pellets (e).

broken in the canals. The Patient Pack introduces the necessary control in the handling of root canal instruments. When treatment of the canal is complete, the stoppers are removed from the files and the files discarded. Old and worn instruments are thereby eliminated.

The Patient Pack cans may be sterilized for one hour in a hot air sterilizer or oven at 325°F. Dentists who use the bead method of sterilization will want to use the Patient Pack cans as a system for instrument control.

I use short handled instruments because they simplify treatment. Originally introduced for treatment of posterior teeth where access is difficult, these instruments are also easily used in the treatment of anterior teeth.

I further recommend that either files or reamers be used. Although the two

differ somewhat in their respective mode of action, this difference is negligible. Each individual dentist will find favour with one or the other. In my hands the files, because of their additional turns, seem more flexible and communicate a more intimate 'feel' of the lumen configuration. Since files are not twisted and because they are withdrawn from the canal with a rasping action, shoulder formation, undoing of the spirals, and risk of instrument breakage are minimized. However, because of their additional spirals, files will remove less material than the reamers. But this drawback seems less important than the hazards which attend the use of reamers.

Power Aspiration.—A power aspirating device not only eliminates the need for cotton rolls, cotton pellets and paper

points, but also permits the removal of moisture and debris in a fraction of the time and with greater efficiency. It also aspirates from the pulp chamber large pieces of debris that might otherwise be difficult to remove were a spoon excavator used. With this aid, the volume of irrigation can be very simply increased. One hand is used to control the irrigating syringe while the other holds the suction tip near the occlusal opening. Following irrigation, the suction tip is inserted into the pulp chamber and the canal is almost completely dried. Prior to final obturation the pulp chamber is flooded with alcohol and dessicated by power suction. If a sterile paper point is necessary, this is obtained from the Patient Pack.

Ostby Stop.—The purpose of a stop is to provide precise measurement control. The Ostby stop with its screw fastener is ideal for this purpose. The stops are applied to the files when the length of the tooth is determined. They may be stored in unused Patient Packs. The files, with stops affixed, are sterilized together in the Patient Pack currently being used. This is the only stop for a short handled file that can be sterilized by any method. When treatment is completed, the stops are removed and the files discarded.

Additional Aids. — Paper points, dyed blue, are made by the Produits Dentaires Company of Switzerland. If fine, medium and coarse paper points are used, I recommend that the medium size points be of the blue variety. This makes the separation of sizes much easier.

Before the introduction of Standardized root canal instruments, it was not uncommon to encounter variations in instruments of the same type and size number by the same manufacturer. The advent of standardization has brought greater uniformity of the progression of instrument sizes and filling materials. Nevertheless, it would be a mistake to expect that filling points will always fit according to number. This is mainly because of inefficient instrument usage. Also, if a cutting instrument is used twice in the same canal, it will leave a larger lumen than if it is used only once. Therefore

there will still be a little trial and error in fitting filling points.

Orifice wideners aid the introduction of files into the canals. The Gates-Glidden drill used in the contra-angle hand-piece or Auerbach's Hand Widener (Union Broach Company) are admirable for this purpose.

STERILIZATION

I use camphorated para-mono-chlorophenol because it is an effective disinfecting substance and because it is liquid in form. I do not insert a paper point as a dressing into the canal. I apply instead a pellet of cotton moistened with the CPMCP to the orifice of the canal in the pulp chamber where it is sealed with Cavit. CPMCP and most endodontic sterilizing medicaments have low surface tensions. They will therefore creep down the canal and mix with the exudate coming from the inflamed apical lesion. If there is an acute reaction with much exudation, an empty canal will accommodate the exudate. Moreover, a swollen paper point may become wedged inside the canal making its removal difficult and time-consuming. If desired, a paper point moistened with medicament may be inserted into the canal to wipe its walls but it should be withdrawn and the cotton pellet used to close off the orifice prior to sealing the pulp chamber.

OBTURATION

The surface of a glass mixing slab can be rapidly sterilized by moistening it liberally with alcohol and igniting it.

The task of placing a root canal silver point filling can be made easier with the small haemostat included in the Endo Bag. By clamping the silver point at the appropriate place, the precise length is established. The point can now be tried in the canal, or laid down without losing the original measurement. Furthermore, the silver point can be seated to place with much more pressure than if it is handled with college pliers. In anterior teeth (and also in certain posterior teeth)

the silver point in the haemostat may be notched one-third of the length from the apex and then twisted off in the split-point technique of root canal filling. The remainder of the canal is subsequently filled with gutta percha points. This split-point technique is particularly useful when the construction of a dowel post is anticipated. It then becomes a simple matter to remove the gutta percha without disturbing the apical seal.

Following the cementation of the silver point in a posterior tooth, sufficient temporary stopping (from the Zephiran well) is packed around it (about 2 mm. thick) to stabilize it. The excess silver point is then removed by the No. 36 diamond instrument, cutting the point off at the level of the temporary stopping.

CONCLUSION

Endodontic treatment can be greatly simplified by using prepared kits of sterilized instruments and supplies. I have described a system consisting of an Endo Bag for hand instruments that can be autoclaved, and an Endo Block which accommodates medicaments, filling materials, and root canal instruments. I have also introduced a concept of root canal instrument control. A selection of instruments and supplies is suggested and their application described. Readers are invited to comment and to offer further ideas.

5845 Cote des Neiges Road

Donations for Dental Education • The Canadian Fund for Dental Education, sponsored by the Canadian Dental Association and the Canadian Section, American Dental Trade Association was established in 1963 to aid dental education, assist dental schools, promote scholarships and student loans, and help recruit new students for Canada's dental schools. Direct contributions as well as living memorial donations that honour the memory of a deceased person are gratefully received. When occasions for memorial contributions arise, obituaries may indicate that contributions to the Fund are appropriate in expression of sympathy. Cheques should be made payable to the Canadian Fund for Dental Education, 234 St. George Street, Toronto 5, Ontario. Donors are furnished receipts which entitle them to income tax deduction.

Dental Personnel in Canada, 1965

Bureau of Economic Research

On the first of January 1965, there were 6,215 dentists in Canada—6,075 men and 140 women. These figures include all dentists who are licensed to practise. There is no way of knowing how many of these dentists are not in active practice.

Two thirds of all dentists are located in the provinces of Ontario and Quebec. Ontario alone has 42 per cent of Canada's dentists.

Canada's dental supply has increased by 112 dentists since last year. Unfortunately, a large part of this increase is only 'on paper.' Because of a change in the records of Nova Scotia, the number of dentists reported by that province jumped from 189 in 1964 to 230 in 1965, although the actual net gain in practitioners was only two over last year.

Since the 1964 report, 314 dentists have been added to the provincial registers. During this same time, 87 dentists have died, 71 have retired, 23 have left the country and 33 have been deleted from the registers for other reasons. Fifty-six dentists moved from the provinces in which they were registered in 1964. Thirty-three of them moved to other Canadian provinces. The largest number going to any one province (13) moved to British Columbia. British Columbia was, in fact, the only province that experienced

Nombre de dentistes au Canada en 1965

Bureau des recherches économiques

Le 1er janvier 1965, il y avait au Canada 6,215 dentistes: 6,075 hommes et 140 femmes. Ces chiffres comprennent tous les dentistes licenciés, car il n'est pas possible de savoir combien sont licenciés mais n'exercent pas activement leur profession.

Les deux tiers de tous ces dentistes exercent dans les provinces de Québec et d'Ontario. Cette dernière à elle seule a 42 pour cent des dentistes du Canada.

Depuis un an, il y a 112 dentistes de plus au Canada. Mais une grande partie de cette augmentation n'est pas réelle. En effet, à cause d'un changement dans les registres de la Nouvelle-Ecosse, les chiffres que donne cette province sont passés de 189 en 1964 à 230 en 1965, bien qu'en réalité, il n'y ait là que deux dentistes de plus que l'an dernier.

Depuis le rapport de 1964, il y a 314 noms de plus dans les registres provinciaux. Durant cette même année, 87 dentistes sont décédés, 71 ont pris leur retraite, 23 ont quitté le pays et 33 ont été rayés des registres pour diverses raisons. Cinquante-six dentistes ont quitté la province où ils pratiquaient en 1964; 13 de ceux-ci se sont installés en Colombie britannique, qui est la seule province à avoir profité de ces déplacements. Toutes les autres provinces ont perdu plus de

Devaney; Miller

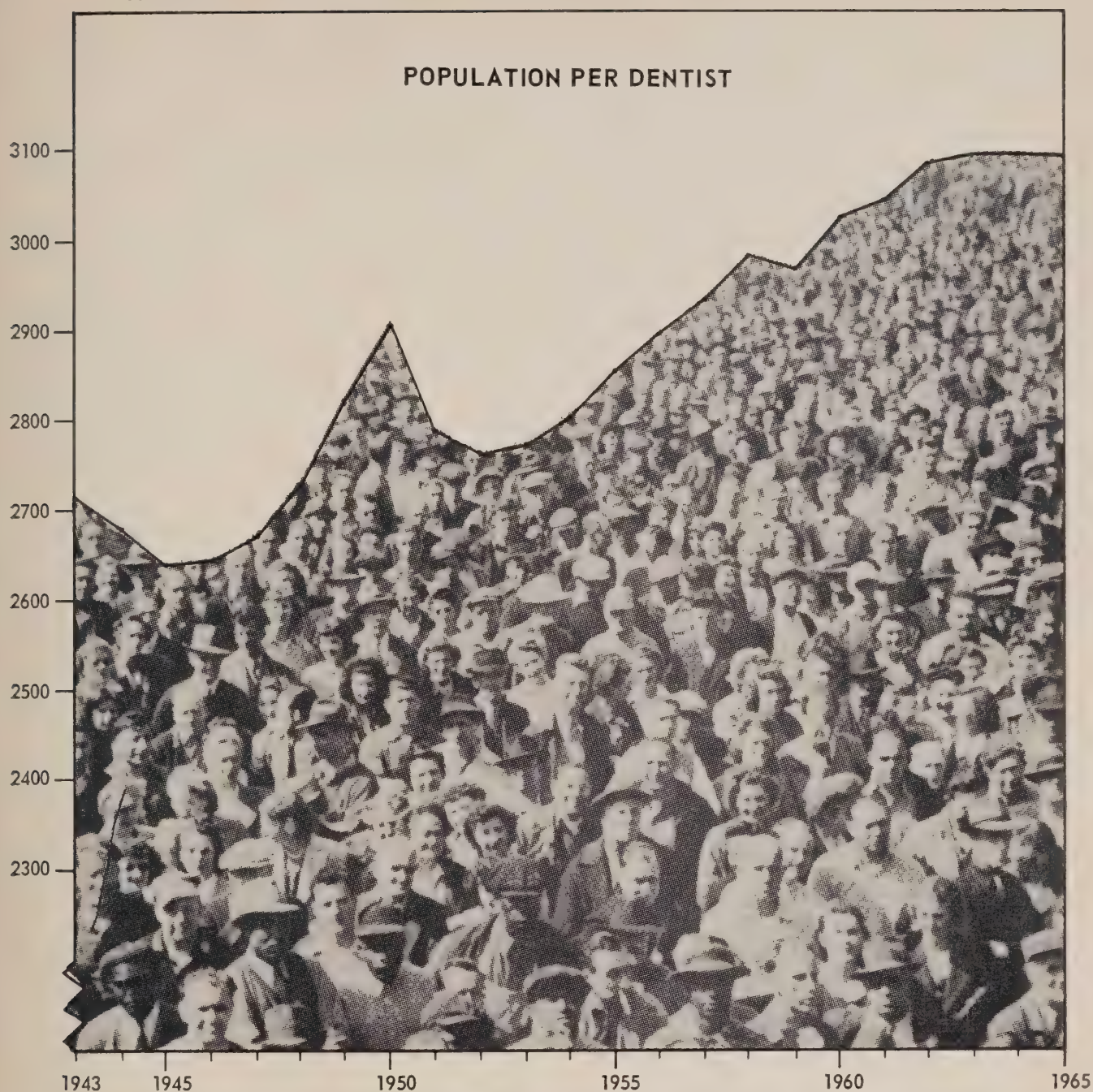


FIGURE 1 Population per dentist • Population par dentiste.

a net gain from relocations. All other provinces had more dentists move away from than into the province. Of the 23 dentists leaving Canada, 17 moved to the United States.

RATIO OF DENTISTS TO POPULATION UNCHANGED

For three years now, the ratio of Canadian dentists to population has remained the same. There are 3,095 people for every dentist in Canada. Of all prov-

dentistes qu'elles en ont gagnés. Des 23 dentistes à quitter le Canada, 17 sont allés aux États-Unis.

LA PROPORTION DENTISTE-POPULATION DEMEURE INCHANGÉE

Depuis trois ans, le nombre de dentistes par rapport à la population demeure inchangé. Il y a au Canada, 3,095 personnes pour chaque dentiste. De toutes les provinces, c'est la Colombie britannique qui a la meilleure proportion, suivie

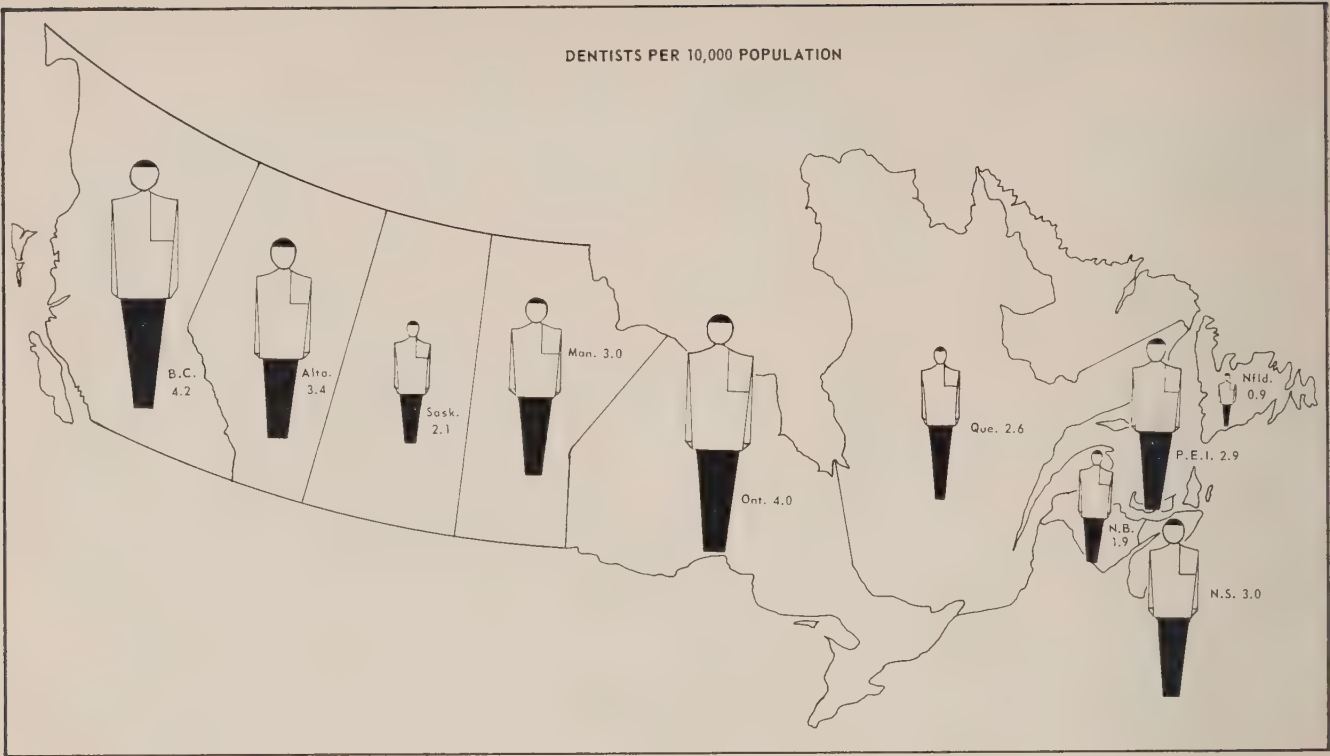


FIGURE 2 Dentists per 10,000 population • Nombre de dentistes par 10,000 de population.

inces, British Columbia has the best ratio followed by Ontario and Alberta. Only these three provinces have ratios that are better than the national ratio. British Columbia has 2,371 people for every dentist in the province. At the other extreme, Newfoundland, with a ratio of 1:11,419, has almost five times as many people per dentist as B.C.

What are the reasons for these great variations in ratios? Generally, ratios are better in the western half of Canada than in the five eastern provinces. The exception is Saskatchewan where the ratio is worse than the ratios of three of the eastern provinces. The three provinces with

par l'Ontario et l'Alberta. La Colombie britannique compte 2,371 habitants par dentiste, tandis qu'à Terre-Neuve, la proportion est de 1 pour 11,419, presque cinq fois moindre qu'en Colombie britannique.

Pourquoi des différences aussi marquées? En général, les proportions sont meilleures dans la partie ouest du Canada que dans les cinq provinces de l'est, à l'exception de la Saskatchewan. Les trois provinces où la proportion est la plus défavorable sont Terre-Neuve, le Nouveau-Brunswick et la Saskatchewan qui n'ont pas de faculté dentaire. Il est vrai que jusqu'à cette année, il n'y en avait pas non plus en Colombie britannique,

TABLE 1 Dentists registered in Canada, 1965 • Dentistes licenciés au Canada, 1965.

Province	Total	Men Hommes	Women Femmes	Province
Newfoundland	43	41	2	Terre-Neuve
Prince Edward Island	31	31	0	Ile-du-Prince-Edouard
Nova Scotia	230	226	4	Nouvelle-Ecosse
New Brunswick	120	119	1	Nouveau-Brunswick
Quebec	1,469	1,449	20	Québec
Ontario	2,623	2,532	91	Ontario
Manitoba	287	287	0	Manitoba
Saskatchewan	195	193	2	Saskatchewan
Alberta	484	477	7	Alberta
British Columbia	733	720	13	Colombie britannique
Canada	6,215	6,075	140	Canada

TABLE 2 Population per dentist and dentists per 10,000 population, 1965 • Population par dentiste, et dentistes par 10,000 de population, 1965.

Province	Population per dentist Population par dentiste	Dentists per 10,000 population Dentistes par 10,000 de population
Newfoundland		
Terre-neuve	11,419	0.9
Prince Edward Island		
Ile-du-Prince-Edouard	3,452	2.9
Nova Scotia		
Nouvelle-Ecosse	3,313	3.0
New Brunswick		
Nouveau-Brunswick	5,142	1.9
Québec	3,786	2.6
Ontario	2,511	4.0
Manitoba	3,338	3.0
Saskatchewan	4,836	2.1
Alberta	2,959	3.4
British Columbia		
Colombie britannique	2,371	4.2
Canada	3,095	3.2

the most unfavourable ratios (Newfoundland, New Brunswick and Saskatchewan) have no dental schools. Of course, until this year, there was no dental school in British Columbia, the province that has

province où la proportion est la meilleure depuis les six dernières années. Il n'y a pas de relation entre la moyenne de revenu net du dentiste et le nombre de dentistes dans une province donnée. Par ailleurs, il y a une relation bien établie entre la proportion dentiste-population et (1) le revenu per capita, (2) le pourcentage de la population ayant passé plus de deux ans dans une école secondaire. En général, il semble y avoir plus de dentistes dans une province où les revenus sont plus élevés et où la population est plus instruite. Il est bien établi que la demande pour les services dentaires varie selon l'éducation et le revenu.^{1,2} Il semble donc que les dentistes se répartissent à travers le pays pour répondre à la demande.

Depuis les 10 dernières années, le nombre des dentistes au Canada a augmenté de 16 pour cent alors que la population a augmenté de 26 pour cent. Seules les provinces de Terre-Neuve et de Nouvelle-Ecosse montrent une augmentation plus forte en dentistes qu'en population. Remarquons toutefois, que durant la même période, la productivité du dentiste a augmenté de façon considérable.

TABLE 3 Full-time dental specialists, 1965 • Spécialistes à temps complet, 1965.

Province	Total	Specialists — Spécialistes		
		Oral Surgery Chirurgie buccale	Orthodontics Orthodontie	Periodontics Périodontie
Newfoundland				
Terre-Neuve	0	0	0	0
Prince Edward Island				
Ile-du-Prince-Edouard	0	0	0	0
Nova Scotia				
Nouvelle-Ecosse	7	2	4	1
New Brunswick				
Nouveau-Brunswick	3	0	3	0
Québec	42	10	28	4
Ontario	130	35	74	21
Manitoba	11	4	6	1
Saskatchewan	2	0	2	0
Alberta	16	5	10	1
British Columbia				
Colombie britannique	18	7	10	1
Canada	229	63	137	29

had the best ratio for the past six years. There is no correlation between average net incomes earned by dentists and the supply of dentists in a province. There are, however, relatively high positive correlations between dentist:population ratios and (1) per capita personal disposable incomes, and (2) the percentage of the population with more than two years of secondary schooling. In general terms, it seems the higher the incomes and the better the education of the population of the province, the more dentists there will be in relation to that population. Demand for dental services is known to vary with education and income.^{1, 2} It is probable, therefore, that the distribution of dentists across the country tends to reflect the demand for their services.

In the past 10 years, the number of dentists in Canada has increased 16 per cent while the total population has grown 26 per cent. Only the provinces of Newfoundland and Nova Scotia have experienced more rapid increases in dentists than in population. It is important to remember, however, that in this same period the productivity of dentists has also grown significantly.³

SPECIALISTS, DENTAL HYGIENISTS AND SALARIED DENTISTS

Certification of specialists is a matter of provincial jurisdiction and the number of certifiable specialties differs from province to province. For example, Alberta recognizes seven specialties while in Newfoundland no specialties are certifiable.

There are 229 Canadian dentists limiting their practice to three specialties recognized by the C.D.A. (up to May 1965). The breakdown by specialty is: 63 oral surgeons, 137 orthodontists, 29 periodontists.

The number of dental hygienists in practice in Canada has increased almost 30 per cent since last year. Of a total of 211 hygienists, more than one half (116) are practising in Ontario. Alberta which has the next largest number of hygienists (41) has the best ratio of hygienists to dentists. There is one hygienist for every 12 dentists in Alberta. Quebec,

TABLE 4 Number of practising dental hygienists, 1965 • Nombre des hygiénistes dentaires, 1965.

Province	Number practising En exercice
Newfoundland	
Terre-Neuve	0
Prince Edward Island	
Ile-du-Prince-Edouard	2
Nova Scotia	
Nouvelle-Ecosse	12
New Brunswick	
Nouveau-Brunswick	2
Québec	7
Ontario	116
Manitoba	2
Saskatchewan	10
Alberta	41
British Columbia	
Colombie britannique	19
Canada	211

SPÉCIALISTES, HYGIÉNISTES DENTAIRES ET DENTISTES SALARIÉS

L'octroi de certificat de spécialiste est de juridiction provinciale et le nombre de spécialités reconnues varie d'une province à l'autre. Par exemple, l'Alberta reconnaît sept spécialités alors que Terre-Neuve n'en reconnaît aucune.

Il y a 229 dentistes canadiens qui limitent leur exercice aux trois spécialités que l'A.D.C. reconnaissait avant le 15 mai 1965. La répartition des spécialités: 63 chirurgiens buccaux, 137 orthodontistes, 29 périodontistes.

Depuis un an, le nombre d'hygiénistes dentaires au Canada a augmenté d'environ 30 pour cent. Plus de la moitié (116) des 211 hygiénistes dentaires pratiquent en Ontario. L'Alberta qui vient ensuite avec 41 hygiénistes a la plus forte proportion dentiste - hygiéniste, soit une hygiéniste pour 12 dentistes. De son côté, le Québec ne compte qu'une hygiéniste pour 210 dentistes.

Il y a 306 dentistes salariés qui exercent à plein temps: 90 dans les facultés dentaires, 64 dans les hôpitaux, 102 dans les services dentaires pour écoliers et 50 dans divers services de santé publique. Il y a aussi 151 dentistes salariés à temps partiel.

on the other hand, has only one hygienist per 210 dentists.

There are 306 dentists in full-time salaried practice—90 on the staffs of dental schools, 64 employed in hospitals, 102 in the school dental service and 50 in the public health service. In addition, 151 dentists are in half-time salaried employment.

The federal government employs 231 dentists on a full-time basis. There are 173 dentists employed by the Department of National Defence, 35 by the Department of Veterans' Affairs and 23 by the Department of National Health and Welfare.

Le gouvernement fédéral emploie 231 dentistes à plein temps: 173 sont au Ministère de la Défense nationale, 35 au Ministère des anciens combattants et 23 au Ministère de la Santé nationale et du bien-être social.

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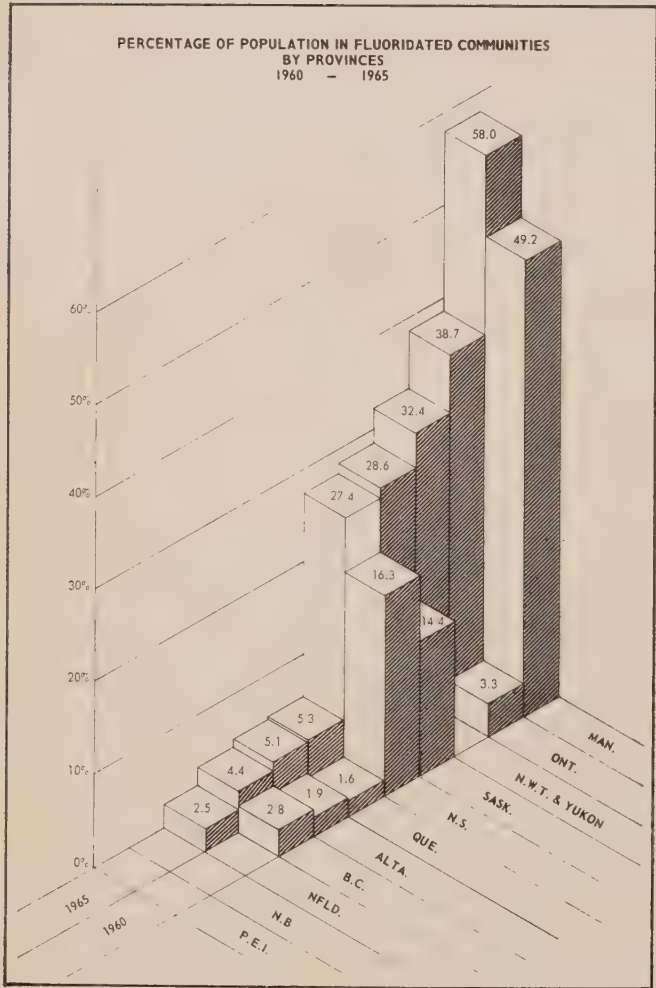
Reprints of the Canadian Dental Association's statement on the Report of the Royal Commission on Health Services and of the Association's statement on the Relative Value Method of Fee Determination, both of which were published in the 1965 *Transactions*, may be obtained from Association headquarters while the supply lasts. Write to Dr. W. G. McIntosh, secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario.

C.D.A. War Memorial Essay Competition • "Dental Calculus: the Mechanism of its Formation and its Effects on Oral Health" is the title for the 1965-66 Canadian Dental Association War Memorial essay award competition. The title was chosen by the War Memorial Awards Committee and confirmed by the Association's Board of Governors. Prize-winning essays are published in the *Journal of the Canadian Dental Association*. First and second prizes are \$200 and \$100 respectively.

Fluoridation in Canada, 1965

Bureau of Economic Research

Twenty-nine communities have been added to this year's list of cities and towns with controlled fluoridation. All but three of these are located in three provinces. Seventeen more Saskatchewan communities began fluoridating their water sup-



La fluoration au Canada en 1965

Bureau des recherches économiques

Vingt-neuf noms se sont ajoutés à la liste des villes et municipalités dont l'eau de consommation est fluorée. Vingt-six sont situées dans trois provinces seulement. En Saskatchewan, 17 municipalités de plus ont commencé la fluoration durant 1964; cinq municipalités ont été ajoutées à la liste de l'Alberta, et quatre à celle du Manitoba.

On estime à 4,050,100 le nombre de personnes buvant de l'eau fluorée, ce qui ne donne une augmentation que de 5 pour cent depuis l'an dernier. Cette augmentation de 181,800 est probablement trop basse, car les statistiques récentes d'augmentation de la population ne sont pas disponibles pour toutes les municipalités.

Les régions qui démontrent l'augmentation de pourcentage la plus élevée sont Terre-Neuve et les Territoires du Nord-Ouest. C'est dans l'Ontario qu'on note la plus forte augmentation brute. On y constate une augmentation de 110,900 généralement due à un accroissement de la population. La Saskatchewan montre une augmentation de 30,700 dans le nombre de personnes qui consomment de l'eau

FIGURE 1 Percentage of population in fluoridated communities by provinces, 1960-1965 • Pourcentage de la population des municipalités qui ont fluoré leur eau, par province, 1960-1965.

TABLE 1 Population living in communities with controlled fluoridation, by province, 1965 • Population habitant des municipalités, qui ont fluoré leur eau, par province, 1965.

Province	Population	Per cent Pourcentage
Newfoundland	12,500	0.3
Terre-Neuve	—	0.0
Prince Edward Island	—	0.0
Ile-du-Prince-Edouard	—	0.0
Nova Scotia	208,700	5.1
Nouvelle-Ecosse	—	0.0
New Brunswick	—	0.0
Nouveau-Brunswick	—	0.0
Québec	295,500	7.3
Ontario	2,546,700	62.9
Manitoba	555,600	13.7
Saskatchewan	269,300	6.7
Alberta	72,400	1.7
British Columbia	76,100	1.9
Colombie britannique	—	—
Yukon	5,100	0.1
Northwest Territories	8,200	0.3
Territoires du Nord-Ouest	—	—
Canada	4,050,100	100.0

plies during 1964; five communities have been added to Alberta's list and four to Manitoba's.

The estimated number of people drinking fluoridated water, 4,050,100, has increased only five per cent since last year. This increase of 181,800 people is probably on the low side, as up-to-date population figures are not available for all municipalities.

The areas showing the greatest percentage increases were the provinces of Newfoundland and the Northwest Territories. In terms of absolute increases in population covered, the most progress was made this year in Ontario which had an increase of 110,900, most of it due to population growth. Saskatchewan added 30,700 people to its fluoridation figures largely because of the additional 17 communities initiating fluoridation in 1964.

Sixty-three per cent of all Canadians drinking fluoridated water live in Ontario. Ontario has more than two and a half million citizens benefiting from this preventive measure, while over half a million people in Manitoba are equally fortunate. Quebec, Saskatchewan and Nova Scotia all have between two and three hundred

fluorée. Cette augmentation est due au fait que 17 municipalités de plus ont commencé la fluoration en 1964.

Soixante-trois pour cent de tous les Canadiens qui boivent de l'eau fluorée habitent l'Ontario. Il y a donc en Ontario plus de deux millions et demi de citoyens qui bénéficient de cette mesure préventive. Au Manitoba, plus d'un demi million sont dans la même situation. Entre deux et trois cents mille personnes boivent de l'eau fluorée respectivement dans le Qué-

TABLE 2 Per cent of total population in municipalities with controlled fluoridation, 1956-1965 • Pourcentage de toute la population des municipalités qui ont fluoré leur eau, par province, 1965.

Year Année	Per cent Pourcentage
1956	2.1
1957	5.8
1958	5.9
1959	6.1
1960	6.0
1961	7.4
1962	8.4
1963	10.9
1964	20.5
1965	21.1

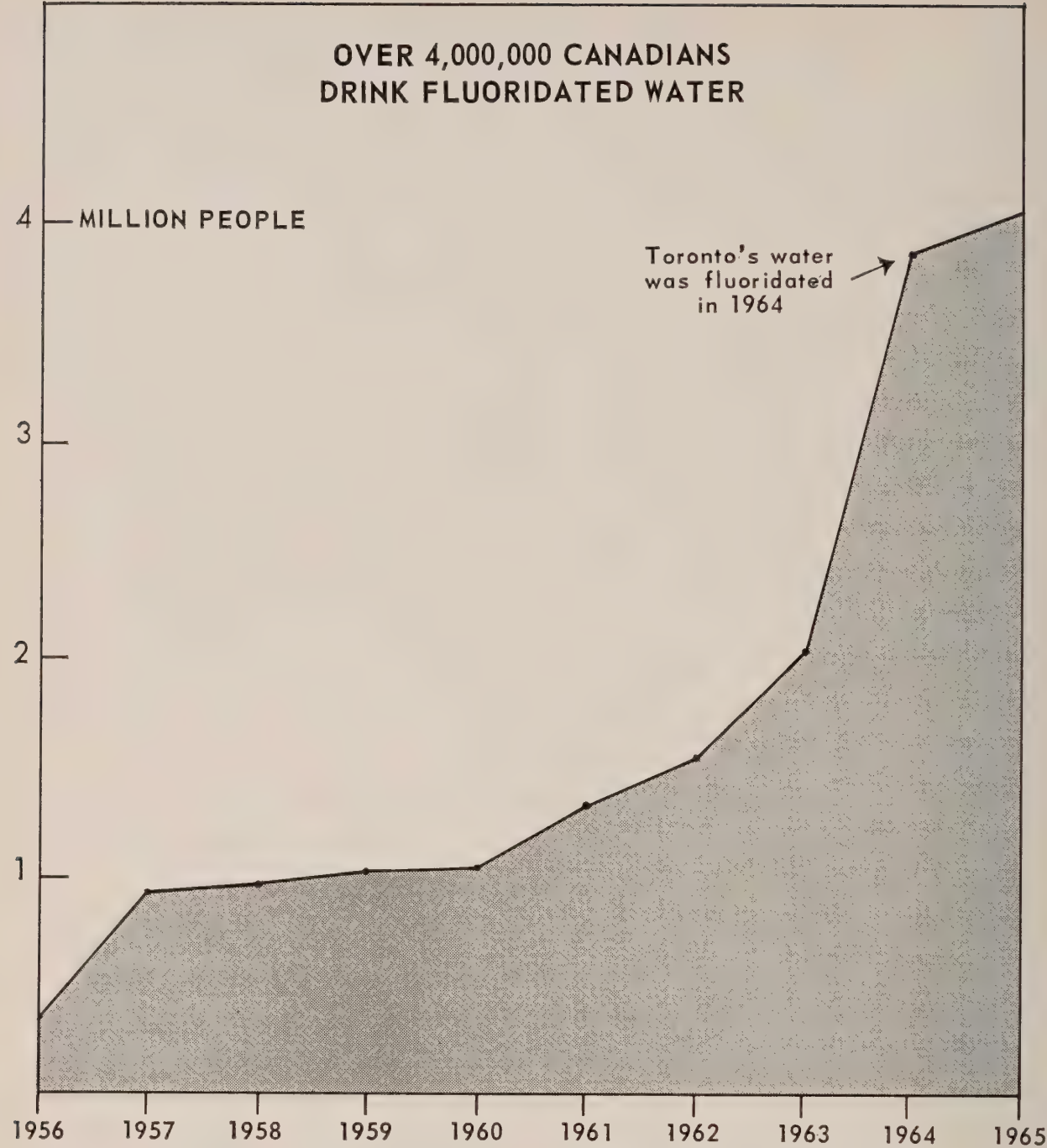


FIGURE 2 Over four million Canadians drink fluoridated water • Plus de quatre millions de Canadiens consomment de l'eau fluorée.

thousand persons living in fluoridated areas.

Fifty-eight per cent of all people in Manitoba are residents of communities with fluoridated water. This makes Manitoba the province with the highest percentage of total population living in fluoridated communities. Ontario, thanks to the fluoridation of Toronto's water supplies, is 39 per cent fluoridated while both Saskatchewan and Nova Scotia have passed the 25 per cent mark. Prince Edward Island and New Brunswick are the only

bec, la Saskatchewan et la Nouvelle-Ecosse.

Au Manitoba, 58 pour cent de la population habite dans des municipalités dont l'eau est fluorée. Cette province a donc le plus haut pourcentage de population habitant des régions fluorées. Grâce à la fluoration de l'aqueduc de Toronto, l'Ontario atteint 39 pour cent, tandis que la Saskatchewan et la Nouvelle-Ecosse ont toutes deux dépassé 25 pour cent. L'Île-du-Prince-Edouard et le Nouveau-Brunswick sont les deux seules provinces dont

provinces having no communities with controlled fluoridation.

The percentage of the total Canadian population covered is ten times greater than in 1956, but Canada is well behind the percentage of the population fluoridated in the United States. Thirty-two per cent of all Americans drink fluoridated water; only 21 per cent of all Canadians have the same advantage.

Of 29 plebiscites on fluoridation known to have been held during the past year, only 14 were definitely successful. British Columbia held 15 plebiscites and lost eight. Two of the losses had a majority of voters in favour of fluoridation; but, in British Columbia, a 60 per cent majority is required. Ontario with five wins (one of which was the City of Ottawa) and two losses was more successful. There were seven plebiscites in Alberta. The Edmonton plebiscite failed although 55,000 people voted in favour of fluoridation while only 29,000 opposed the measure. In five other plebiscites, majorities voted for fluoridation, but in only two of these was the percentage majority sufficient to carry the measure. A two-thirds majority is required to win a fluoridation plebiscite in Alberta.

aucune municipalité ne profite de la fluoruration.

Le pourcentage total canadien est de 10 fois plus élevé qu'en 1956, mais il est encore très en deçà de la proportion de la population qui bénéficie de la fluoruration aux États-Unis. Il y a 32 pour cent aux États-Unis par rapport à 21 pour cent au Canada.

Des 29 référendums tenus l'an dernier sur la fluoruration, 14 pour cent seulement ont réussi. Sur 15 référendums, la Colombie britannique en a perdu huit; dans deux cas, il y a eu une majorité de votes en faveur de la fluoruration, mais la loi de la Colombie britannique exige une majorité de 60 pour cent. L'Ontario a mieux réussi avec un gain de cinq, dont la ville d'Ottawa, contre trois perdus. On a tenu sept référendums en Alberta. Celui d'Edmonton a échoué, malgré 55,000 votes en faveur de la fluoruration, et 29,000 votes contre. Dans cinq autres référendums, la majorité des votes est allée à la fluoruration, mais il y a eu deux échecs faute d'obtenir la majorité légale nécessaire. En Alberta, il faut une majorité des deux tiers pour réussir un référendum sur la fluoruration.

Transactions of the Canadian Dental Association • The Association's *Transactions* contain reports of the activities of the various bureaux, councils and committees. Published in English and French after every meeting of the Board of Governors, it is recommended reading for all Canadian dentists.

New Zealand revisited

A considerable part of the profession's criticism of the dental recommendations of the Royal Commission on Health Services has been directed at the proposed introduction of New Zealand type dental auxiliaries for the provision of dental care to Canadian children. Much of our knowledge of the New Zealand school and adolescent dental service stems from published reports by various Canadian and American observers. It is instructive, therefore, to note some recent comments by a European observer who visited that country last year in the course of a World Health Organization assignment as dental consultant to the French dependencies in the South Pacific. Professor L. J. Baume who is dean of the School of Dentistry at the University of Geneva, Switzerland, recorded the impressions he gained in New Zealand in the May issue of the *Swiss Dental Journal*.¹ His observations are interesting because they represent the conclusions of a dentist from a highly developed European nation with a federal system of government and pattern of dental practice somewhat analogous to our own.

In the portion of his account relating to New Zealand, Baume briefly traces the country's political and cultural heritage and delineates its economic and social characteristics. He reviews the origin and growth of the school dental service and comments on some of its accomplishments ("I saw thousands of teeth, hundreds of well adapted fillings, not a single important unfilled cavity") as well as some of its shortcomings ("... Oral hygiene was often inadequate, even if the level of preservation of the teeth was optimal"). Interestingly, Baume's observation on the state of oral hygiene is diametrically opposed to that of Schachter,² a Canadian observer who visited New Zealand in 1962.

The supervision and the responsibilities exacted of the New Zealand dental nurse have often been targets for criticism. Commenting on this aspect, Baume describes the country's 13 dental administrative districts, each with a 'principal dental officer' and a supervisory nurse or 'dental nurse inspector.' One or other of these officials is constantly on the move, visiting clinics to inspect the personnel and the premises, examine patient records and spot-check the treatment performed. Baume also mentions certain designated private dentists to whom the dental nurse can turn for advice and guidance in matters beyond her competence. The services of these practitioners are retained under a contract with the government. They are apparently readily accessible to the dental nurse who is required to know by heart the practitioner's telephone number as well as that of her principal dental officer.

An important by-product of New Zealand's dental treatment program for children is reflected in the general demand for dental services which, according to Baume, exceeds the capacity of the country's 1,123 dentists. The fact that no

less than 24,000 dentures were “delivered directly by dental technicians to patients last year” is a significant corollary. The technicians have apparently seized on this pretext in an attempt to secure legality for this kind of activity. Curiously, they do not base their case on the example of the dental nurse who is privileged to perform specified intra-oral procedures. Instead, like certain technicians in our own western provinces and in Switzerland’s Canton of Zurich, they fall back on an illegal precedent.

Viewed in this context, the dental treatment program for New Zealand’s children—the “best organized public dental treatment service in the world”—is termed a failure by Baume because the majority of the teeth so carefully and systematically treated are ultimately lost. Without concurrent action to render the dental tissues more resistant to recurrent onslaught by dental disease, a treatment program is largely a never-ending palliative measure—a veritable labour of Sisyphus.

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As Others See It

Dental service corporation

No issue in recent times has stimulated more discussions among dentists than the dental service corporation. Debates and discussions about this matter are proper and should be encouraged. There are those who oppose the concept under any circumstances. There are those who believe it is a sound undertaking and is dentistry’s way of preventing eventual government takeover. There are many in-betweens who may accept the principle of service corporations, but disagree with certain details of operation.

Having reviewed hundreds of pages of material written about service corporations, both for and against, the fundamental principles appear sound.

While most of us would agree that dentistry has served the people of this country [U.S.A.] well, and we are pleased with the results—up to a point—the wishes of the public are changing. When we choose to ignore our public, we might just as well surrender our franchise. To roll back the times is an insurmountable task. Dentistry, perhaps more than any other profession, is taking the initiative to provide a sensible alternative to governmental control. While it is true service corporations will alter somewhat the practice of our profession, the price we must pay seems small compared to surrendering most of our control to a larger, cumbersome, unknowledgeable authority.

There is room for both the service corporation and the private insurance carrier. This competition will ultimately benefit the public. However, if we give up our control to non-professional agencies, both the public and the profession will suffer.

The Board of Trustees of the Michigan State Dental Association believes that the service corporation is a necessary step. However, there are many differences in opinion regarding the details of its operation. Recently, a new committee was established to review fee schedules and various methods of remuneration. The trustees hope that every component society will discuss service

corporations openly, and then make judgement based on facts. To react emotionally and to accept the written or spoken word without question would certainly not result in rational decision.

This Journal [of the Michigan State Dental Association] is eager to hear from its readers.

It has solicited such responses many times in the past. Now is the time to discuss issues thoughtfully and openly. If you disagree with the policies of your administrators and fail to communicate your opinion, you must accept the responsibility for decisions which run contrary to yours.

W. E. Brown

Journal of the Michigan State Dental Association. Vol. 47, February 1965. Reprinted by permission.

letters • courrier

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Physician-Dentist Relations

To the Editor:

In the April issue of our Journal there is a small paragraph titled "Ontario Medical Association Refuses Support to Dentists."

By lumping our professions with faith healers, etc., former O.M.A. president Patrick Bruce-Lockhart has done both us and his own profession a great disservice. Statements like this can only cause a rift and this at a time when solidarity among our own profession and among all professions is a must.

At a time when the tendency and trend is toward more control of all professions it is essential that we come closer together, otherwise we cannot speak with any authority.

From this paragraph I can only make two assumptions: (1) that loose reporting quoted Dr. Bruce-Lockhart out of context and entirely wrongly, in which case our Journal owes him an apology; or (2) that he did mean this and was not quoted wrongly, in which case he owes our profession an apology.

I do not question his right to disagree with our profession. I question his manner and method. I am surprised at the Ontario Dental Association in allowing this statement to be made with no objection.

*F. L. Pierce, D.D.S.,
Clinic Building, Swift Current, Sask.*

Dental Health of B.C. Indians

To the Editor:

I found Dr. Sumner's article on abnormalities and the condition of the teeth of the native population in British Columbia (June Journal) most interesting. Since I held the same post with Indian and Northern Health Services of the Department of National Health and Welfare as Dr. Sumner I visited many of the same reserves a year after him. I can endorse his observation, "that an impression on the dental condition of B.C. Indians is one of appalling destruction." During my travels I decided, as a rule of thumb, that the caries incidence was more or less proportional to the accessibility of a store. Dr. Sumner's more detailed analysis seems to support this view.

The program of Indian and Northern Health Services is largely directed at younger children and consists of education and the restoration of teeth wherever possible. From my experience in the northern part of the province I would say that where the native children attend day schools, and a store is available, the prognosis of this work is dubious.

However, in spite of the general picture of gloom I personally have witnessed a fair degree of progress at one of the schools, Lejac, that Dr. Sumner mentions. The school, which has nearly 200 boarding pupils, had a dental program carried out by Dr. Sumner in 1963 and by myself in 1964. The treatment consisted of education, uncomplicated restorations and the simplest interceptive orthodontics. Since the children's diet is controlled by the school authorities and toothbrushing is supervised the results, relative to other native groups, are good. The dental care that these children have received

has been of value in preventing the large lesions resulting from the common dens in dente abnormalities of the upper incisors. Also the early extraction of the medium supernumeraries has prevented some of the uglier manifestations of overcrowding.

Unfortunately this group is an exception and Dr. Sumner's article, in addition to tabulating some of the dental characteristics of these people, gives a depressingly accurate picture of the effect of proximity to 'civilization' on their teeth.

*T. C. Webb, D.D.S.,
P.O. Box 185, Vanderhoof, B.C.*

Corps Commemoration Appreciated

To the Editor:

The complimentary copies of the July issue of the Journal were much appreciated. The coverage accorded the Royal Canadian Dental Corps on our fiftieth anniversary by you as editor is the type of co-operation to which we have become accustomed from the Journal, but for which nonetheless, we are forever grateful. Please accept our sincere thanks for your kindness and assistance.

*K. M. Baird, Brigadier,
Director General of Dental Services
for the Canadian Forces,
Ottawa, Ont.*

History of Dentistry

To the Editor:

Effort is being made to compile all possible information of an historical nature for the purpose of publishing a history of Canadian dentistry. The co-operation of Association members, who possess or know of information of historical interest, will be greatly appreciated. If request is made, subject matter forwarded will be returned to the sender. Information should be addressed to the undersigned.

*Don W. Gullett, D.D.S.,
5 Colwick Drive, Willowdale, Ont.*

C.D.A. Directory • Copies of the 1965 *Directory* of the Canadian Dental Association may be procured by writing to the Deputy Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario. Price per copy \$2.

Ottawa unveils medicare proposals

Prime Minister Lester B. Pearson has committed the federal government to a universal, comprehensive, publicly administered medical care insurance program. Dental care is not included at present but Ottawa says it will expand the initial plan once it is running smoothly to include dental, drug and "other important services."

On July 19, the opening day of the recent federal-provincial conference, Mr. Pearson outlined these terms for federal participation in provincial medicare plans:

Universal. — Medicare must cover "all residents without exclusion." A province may finance medicare out of general revenues, but if it introduces premiums they must be compulsory for all.

Comprehensive. — A provincial plan must pay for all general practitioner and specialist fees (cosmetic surgery excepted). Deterrent charges, such as "initial deductibles" to discourage request for unnecessary medical attention are "not ruled out, provided they are not of a size to violate the principle of universality by effectively denying service to low income people."

Publicly Administered. — Provincial health departments or Crown agencies must operate the plans. Physicians may practise outside the plan.

Nationally Portable.—To make benefits transferable from province to province, the Prime Minister suggested the provinces consider a three months' carry-over of benefits for anyone moving from one province into another, and use the same standard residency requirement to qualify for benefits.

The federal government expects to contribute up to \$275-300 million of a total anticipated \$600 million medicare bill for Canada. Ottawa plans to work out the details of its offer—\$14 per capita to any province willing to meet the foregoing principles—at a federal-provincial health ministers' conference this month.

The Canadian Medical Association has meanwhile warned that "our political masters may well be promising to provide service to the public which our existing doctor population may be unable to deliver." Meeting that objection, Mr. Pearson said that the federal government would set up a Health Resources Fund to administer a new program of large scale capital grants for medical schools, teaching hospitals and research institutions.

The Association

Two New Specialties Approved

Two additional dental specialties, paedodontics and prosthodontics, were approved at the annual meeting of the C.D.A. Board of Governors in Quebec City. This brings to five, with oral surgery, orthodontics and periodontics, the number of specialties recognized by the Canadian Dental Association. Recognition of the two new specialties was recommended to the Board, after study, by the Specialists and Specialization Committee.

The Canadian Academy of Prosthodontics was granted recognition as the fifth section of the C.D.A. Sections previously recognized are oral surgery (Canadian Society of Oral Surgeons), orthodontics (Canadian Society of Orthodontists), periodontics (Canadian Academy of Periodontology) and dentistry for children (Canadian Society of Dentistry for Children), the latter being a non-specialty section. The recently formed Canadian Academy of Paedodontics becomes the specialty group within the dentistry for children section.

The Board learned officially of the formation of the Canadian Academy of Restorative Dentistry a year ago. It is understood that this group may seek section status within the C.D.A. but not specialty recognition.

Treasurer Reports Deficit

A deficit of \$11,651 on C.D.A. operations for 1964 was reported to the Board of Governors at Quebec City by Treasurer G. M. Dewis of Halifax. Projected deficit of the 1966 budget approved by the Board is \$32,750.

Treasurer Dewis reported a profit received from the 1964 national convention at Edmonton of \$6,237. Main items accounting for the 1964 deficit, he said, were increases in expenses for publications other than the *Journal of the Canadian Dental Association* and for repairs and maintenance of the headquarters building.

After transferrring \$15,000 to the reserve fund in 1964, that fund totalled \$210,979. In the 1966 budget, the Board approved a transfer of \$12,500 to the reserve fund to cover depreciation on property and contents. The 1965 budget, approved last year, contains a similar transfer. The 1966 budget calls for expenses of \$332,000 and revenue of \$299,250.

Full Story of Quebec Meeting to be in 1965 'Transactions'

For complete reports of the 64th annual meeting of the C.D.A. Board of Gover-

nors at Quebec City, members are urged to read *Transactions of the Canadian Dental Association*. The 1965 edition is scheduled for distribution to each C.D.A. member this month (French edition about year end).

Halifax for 1966 Meeting

Nova Scotia and especially Halifax dentists are geared for action in preparation for holding next year's C.D.A. annual meeting. Dates are June 8-11 for the Board of Governors meeting and June 12-15 for the national convention.

Other annual meeting locations: Toronto 1967; Vancouver 1968; Montreal 1969; Winnipeg 1970.

Help Wanted: To Produce Canadian Dental History

Former C.D.A. Secretary Don W. Gullett reports that he is making good progress in compiling material for a projected book on the history of dentistry in Canada. In 1964 the Canadian Dental Association appointed Dr. Gullett to write a historical account of Canadian dentistry. Dentists who possess subject matter or know about information of historical interest are invited to write to Dr. Gullett at 5 Colwick Drive, Willowdale, Ontario. Any material submitted to Dr. Gullett will be returned if requested by the sender.

C.D.A. TV Film Wins Award

One of the Canadian Dental Association's 60-second films has been judged fourth best in a field of 181 television commercials. The 'award of merit' was presented to the film producer Crawley Films Limited during a recent Canadian Television Commercials Festival in Toronto.

The C.D.A. Bureau of Public Information has arranged distribution of 10 of these 60-second public service films to Canadian television stations since 1961. The winning film is one of two animated cartoon films distributed in 1964.



Canadian delegates to the 1965 General Assembly of the Fédération Dentaire Internationale at Vienna June 26-July 1 are (second row l. to r.) Don W. Gullett of Toronto, James Zimmerman of Calgary and Gustave Ratté of Quebec City.

Television stations continue to make good use of these filmed dental health messages. One station in a metropolitan area reported that the value of its commercial time used for C.D.A. messages was over \$5,000 in a two month period.

International Items

Dr. Gard of Norway is New F.D.I. President

Knut Gard of Norway was elected president of the Fédération Dentaire Internationale at its 53rd annual session in Vienna, Austria, June 26 to July 3. Other new officers elected were: W. Stewart Ross, England, president-elect; L. J. Baume, Switzerland, and R. Braun, Germany, vice-presidents and W. Brenner, Austria, councillor. Re-elected were: Harold Hillenbrand, United States, and P. O. Pedersen, Denmark, vice-presidents; Hans Freihofer, Switzerland, speaker, and C. Gysel, Belgium, Belgian legal representative. Total attendance was 2,204, representing 47 countries. Canadian representatives included Don W. Gullett, Toronto, Gustave Ratté, Quebec City, and James Zimmerman, Calgary.

The General Assembly approved a resolution to move the F.D.I. headquarters office into the new building of the

British Dental Association in London. In other actions the General Assembly:

Elected Don W. Gullett, Toronto, former C.D.A. secretary and a vice-president of the Federation, a member of honour of the Federation;

Decreed that future participation at annual sessions (excluding quinquennial world congresses) will be restricted to



James Zimmerman of Calgary (lower left) is an attentive listener at the opening session of the Fédération Dentaire Internationale 1965 meeting in Vienna.



Debating international dentistry at a council meeting during the Fédération Dentaire Internationale 1965 Vienna meeting June 26-July 1 are Don W. Gullett of Toronto (second from left), Harold Hillenbrand, secretary of the American Dental Association (second from right), and G. H. Leatherman, secretary general of the F.D.I. (extreme right).

supporting members and their families;

Raised life membership subscriptions to \$250 effective January 1967;

Accepted an invitation to hold the 1968 annual session in Sofia or Varna, Bulgaria; and

Directed that a joint subcommittee of the F.D.I. Commissions on Public Dental Health Services and Dental Research prepare a position paper on alternative methods to water fluoridation. Such a document will serve as a guide to countries where large areas are without piped water.

A.D.A. Membership Rises to 103,196

Membership in the American Dental Association reached a new high with 103,196 as of June 30. Active and life members number 89,267; there are 456 affiliate members, 82 associate members, 75 honorary members and 13,316 student members.

A.D.A. Scientific Session Topics Listed

The 106th annual session of the American Dental Association, to be held November

8-11 in Las Vegas, offers a wide range of scientific topics in all fields of dentistry. Some of the presentations will include: discussion of recent improvements in dental materials; the patient with angina pectoris or myocardial infarction; effects of recent oral physiotherapy methods in periodontal disease; relationship of oral mucosal lesions to systemic disease; nutritional management of the surgical geriatric patient; and experimental homologous transplantation of dental tissues.

Other features of the session will be the health evaluation program, first introduced at last year's San Francisco meeting. This will include examinations for glaucoma, chest radiograph, electrocardiogram, blood chemistry and panoramic radiographs of the jaws and teeth.

Immediately prior to the annual session, there will be a variety of meetings, including a conference of dental editors, a national dental civil defence conference, a national conference on patient education, and a conference for dental laboratory owners and technicians.

Greater New York Meeting Dec. 6-10

New procedures in all major areas of dental practice will highlight the 41st an-

nual Greater New York Dental Meeting at the Statler Hilton Hotel, New York City, December 6-10; it has been announced by A. A. Lanza, general chairman. The meeting is sponsored by the First and Second District Dental Societies of New York, New York City components of the Dental Society of the State of New York.

This year's program will offer six all-day, limited attendance seminars as well as a series of intensive essay sessions on practice areas of general interest.

In the essay session on boplant in periodontics and oral surgery, objectives and methodology of therapy will be illustrated, and case reports showing use of this material presented. Clinicians include H. M. Goldman of Boston, C. L. Nabers of San Antonio, Texas, and K. H. Thoma of Brookline, Massachusetts.

Earl Pound of Los Angeles will outline a philosophy of full denture treatment which opens a broad avenue for more complete satisfaction of patient and dentist.

In a seminar on restorative dentistry, Rex Ingraham of Los Angeles will cover a wide range of interest to the general practitioner, from placement of a simple amalgam restoration to complete mouth reconstruction.

Other seminars: periodontics, with Irving Glickman and H. M. Goldman, both of Boston; practice administration, with J. H. Mosteller of Mobile, Alabama, and J. O. Wilson of Atlanta, Georgia; endodontics, with Irving Abramson of Baltimore; paedodontics, with R. L. Lindahl of Chapel Hill, North Carolina.

In an essay on current scientific research, E. D. Goldsmith of New York City will review the mechanism of destruction of hard tissues. At this session, other researchers at dental schools, hospitals, and the National Institute of Dental Research will describe findings in related areas of study.

Other essay sessions will cover newer restorative materials, conservative operative dentistry, splinting, evaluation of available paralleling instruments, anterior retainers, oral dynamics, tooth movement in the adult dentition, the temporomandibular joint, and full dentures.

Restorative techniques, treatment planning and many other fields of study will be discussed and demonstrated by 30 American and foreign clinicians.

For further information please write to Mrs. Mabel Purdy, executive secretary, Greater New York Dental Meeting, Room 106A, The Statler Hilton, New York, N.Y. 10001, U.S.A.

Pacific Coast Conference at Honolulu, Jan. 22-29

Members of the Canadian Dental Association have been invited to attend the Thirteenth Triennial Pacific Coast Dental Conference in Honolulu, Hawaii, January 22-29, 1966. For further information and reservations please write to J. H. Dawe, secretary, P.O. Box 2198, Honolulu, Hawaii 96805, U.S.A.

Tufts Offers Dental Courses

A variety of graduate courses is being offered at the Tufts University School of Dental Medicine, Boston. Three graduate programs in oral pathology are offered: a one year course oriented toward clinicians, teachers, and research workers; a two year program leading to qualifications for certification by the American Board of Oral Pathology, which may also lead to a master of science degree; and a three year course for persons interested in a research career.

For those wishing to prepare for specialization and certification by the American Board of Oral Surgery a three year training program has been arranged. One year of this program will be spent at Tufts University School of Dental Medicine and consists of study in basic and applied sciences. The remaining two years will be spent at the Boston City Hospital as intern and resident.

There is also a basic science course in oral surgery for persons desiring to fulfil the requirements for certification by the American Board of Oral Surgery.

Periodontology I is a two year specialist training program for dentists interested in qualifying for certification in perio-

dontics. Periodontology II, a one year specialist training program, is for persons with a year's previous graduate or post-graduate training in periodontics. Periodontology III is designed for those interested in the academic and research aspects of periodontics, as well as preparation for specialty board certification.

For further information and application forms, enquiries should be addressed to the Tufts University School of Dental Medicine, Division of Graduate Studies, 136 Harrison Avenue, Boston, Massachusetts 02111, U.S.A.

Dental Organizations

Nova Scotia Hygienists Honour Janet Burnham

Janet Burnham, who resigned as director of the Dalhousie University School of Dental Hygiene, Halifax, received an honorary membership and gift from her colleagues of the Nova Scotia Dental Hygienists Association June 19. The occasion was the annual meeting of the Nova Scotia division of the Canadian Dental Hygienists Association. A witness to the ceremony was J. R. Fraser of Chester, Nova Scotia, an immediate past president of the Nova Scotia Dental Association.

I. C. Bennett, associate professor of paedodontics at Dalhousie, addressed the group on the role of the dental hygienist in a paedodontic practice.

Named as the new N.S.D.H.A. president was Kate MacDonald, Halifax. Other officers are: Judy Marsh, St. Croix, vice-president; Helen Porter, Lower Onslow, secretary; and Charlotte Gully, Dartmouth, treasurer.

Toronto Academy Sponsors Assistants Training Course

The Toronto Academy of Dentistry will again sponsor an evening course for dental assistants this year. Applicants must have reached their seventeenth birthday before commencement of the course and

have obtained Ontario grade XI standing or its equivalent.

Lectures are given two evenings a week at the Ryerson Polytechnic Institute from the last week of September 1965 to the end of March 1966. Examinations are conducted at the end of each term, at Christmas and in March. Students must attend 90 per cent of the lectures to be eligible for examination. Those who pass the examination will be eligible to receive a Certificate in Dental Assisting from the Royal College of Dental Surgeons of Ontario.

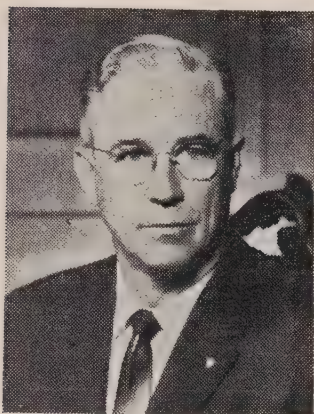
Children's Dentistry Seminar Held at Regina

Thirty-four Saskatchewan dentists attended a two day seminar in Regina May 1 and 2 sponsored by the Saskatchewan Chapter of the Canadian Society of Dentistry for Children. The clinician was W. H. Feasby of the University of Manitoba, Winnipeg. The seminar included lectures, demonstrations, projected clinics and group discussions on various aspects of dentistry for children. Principal topics were radiographic procedures for children, operative procedures for children, child management, treatment of handicapped children in private practice, prevention of tooth fractures, prevention of malocclusion, and fluoridation supplemented by other forms of multiple fluoride therapy.

Newly elected officers of the Saskatchewan Chapter of C.S.D.C. are: M. C. G. Halliday of Saskatoon, president; S. O. Sawa of Saskatoon, vice-president; and D. Singer of Saskatoon, secretary-treasurer.

Dr. English is President of B. C. College

L. E. English of Kamloops has been named president of the College of Dental Surgeons of British Columbia. He succeeds W. P. Munsie of Vancouver. Other members of the college's council are Alan Daysmith and R. L. Horne of Victoria, District 1; W. G. Newby of Chilliwack, District 2; J. G. Ryan, D. J. Yeo, M. J. Waterman and C. W. Gardner of Vancouver, District 3; and W. N. Fraser of



L. E. English

Creston, District 5. Dr. English represents District 4.

Three hundred and thirty-one out of 497 eligible British Columbia dentists cast ballots at the recent election of members of the college's council. The newly elected council holds office for two years.

240 Dentists Attend Western Canada Meeting

Two hundred and forty dentists from Canada and the United States attended the recent Western Canada Dental Society convention at Banff, Alberta, June 16-20. This society holds conventions every two years. The Calgary Dental Society was the host group for the Banff meeting.

R. E. Dickson of Saskatoon was elected president of the W.C.D.S. Other new officers are: J. P. Beattie of Winnipeg, first vice-president; J. C. Waddell of Calgary, second vice-president; J. A. B. Robinson of Regina, secretary; and T. F. Wihak of Regina, treasurer.

An invitation to hold the 1967 convention in Regina was tentatively accepted by the W.C.D.S. House of Delegates.

Canadian Dental Schools

Radiology Course at U.B.C.

A one day refresher course on Radiology for the Dental Practitioner will be presented October 16 by the Faculty of

Dentistry, University of British Columbia. The course will cover normal radiographic appearances, pathogenesis of periapical disease and radiologic study of periapical disease. H. M. Worth and J. D. Spouge will conduct the course. Participants are invited to bring unusual or problem radiographs for discussion. Tuition fee is \$15. Enquiries and applications should be directed to D. J. Yeo, Faculty of Dentistry, University of British Columbia, Vancouver 8, British Columbia.

Toronto U. Offers Various Postgraduate Courses

The following postgraduate courses will be presented by the Faculty of Dentistry, University of Toronto, during 1965-66; operative dentistry, October 25-27; crown and bridge prosthesis, November 1-5; endodontics, February 16-18, 1966; occlusion and occlusal correction, February 21-25, 1966; periodontics, April 11-15, 1966; orthodontics, April 18-22, 1966; practice administration, April 25-26, 1966; and oral surgery, May 2-6, 1966.

Also available are courses leading to specialist certification in dental public health, dental oral surgery and anaesthesia, orthodontics, paedodontics, and periodontics. A separate course in anaesthesia as applied to dentistry is also offered.

Enquiries and applications should be directed to the chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, 124 Edward Street, Toronto 2, Ontario.

Royal Canadian Dental Corps

Lt.-Col. Craigie Visits Camp Gagetown

Lt.-Col. L. G. Craigie represented Brig. K. M. Baird, Director General of Dental Services for the Canadian Armed Forces, as an observer at the Summer Military Concentration at Camp Gagetown, New Brunswick, July 17-20.

Maj. J. J. N. Wright of Canada (r.) is shown receiving the Outstanding Student Award from Maj. Gen. J. L. Bernier, chief of the U. S. Army Dental Corps. Maj. Wright was the top student in a 10 month course on "Advanced Theory and Science of Dental Practice" held at the United States Army Institute of Dental Research, Walter Reed Army Medical Center, Washington, August 1964 to June 1965. Maj. Wright is now assigned to the main periodontal section at the Reed Center for observer training.



Maj. Guevremont Completes P.H. Course

Maj. P. H. Guevremont recently completed the postgraduate course in dental public health at the School of Hygiene and Faculty of Dentistry, University of Toronto. He will be employed at headquarters of No. 15 Dental Company, Montreal.

21 Officers Transferred

Recent changes in appointments and locations announced by Canadian Forces Headquarters are:

Col. B. P. Kearney, from Command Dental Officer, Western Command and commanding officer, No. 11 Dental Company, to a senior appointment at the Dental Directorate, Canadian Forces Headquarters, Ottawa;

Lt.-Col. C. M. Cornish, from commanding officer, No. 1 Dental Detachment, Ottawa, to commanding officer, No. 15 Dental Company, Montreal;

Lt.-Col. G. MacDougall, from commanding officer, No. 4 Dental Company, Germany, to an appointment at the Dental Directorate, C.F.H.Q., Ottawa;

Lt.-Col. L. A. Richardson, from senior clinician, No. 14 Dental Company, Winni-

peg and visiting associate professor in the Department of Prosthodontology and in the School of Dental Hygiene at the Dental Faculty, University of Manitoba, Winnipeg, to commanding officer, No. 4 Field Dental Company, Germany;

Lt.-Col. W. R. Thompson, from instructor at the Royal Canadian Dental Corps School, Camp Borden, Ontario, to an appointment at the Dental Directorate, C.F.H.Q., Ottawa;

Lt.-Col. G. E. Windsor, from headquarters, Western Ontario Area, London, Ontario, to headquarters, Camp Petawawa, Ontario;

Maj. A. G. Andrews, from R.C.A.F. Station, Rockcliffe, Ontario, to an appointment as instructor at the R.C.D.C. School, Camp Borden;

Maj. G. I. J. Bisailon, from No. 14 Dental Company, Winnipeg, to headquarters, Camp Petawawa;

Maj. J. D. Bourque, from headquarters, Camp Valcartier, P. Quebec, to headquarters, No. 14 Dental Company, Trenton, Ontario;

Maj. W. R. Collier, from No. 4 Field Dental Company, Germany, to headquarters, Camp Shilo, Manitoba;

Maj. J. M. A. Donely, from headquar-

ters, No. 1 Dental Detachment, Ottawa, to an appointment as instructor at the R.C.D.C. School, Camp Borden;

Maj. J. I. Gordon, from R.C.A.F. Station, North Bay, Ontario, to R.C.A.F. Station, Whitehorse, Yukon Territory;

Maj. A. T. Hinch, from R.C.A.F. Station, Cold Lake, Alberta, to H.M.C.S. Shearwater, Dartmouth, Nova Scotia;

Maj. J. W. Jolly, from Currie Barracks, Calgary, to R.C.A.F. Station, Rockcliffe, Ontario;

Maj. D. H. Skinner, from headquarters, Camp Petawawa, to headquarters, No. 1 Dental Detachment, Ottawa;

Maj. J. M. Smith, from the R.C.D.C. School, Camp Borden, to Wolseley Barracks, London;

Capt. F. C. Arpin, from No. 35 Field Dental Unit, Europe, to headquarters, No. 12 Dental Company, Halifax;

Capt. J. H. G. Charron, from the Dental Detachment, Canadian Base Units, United Nations Emergency Force, Middle East, to headquarters, No. 15 Dental Company, Montreal;

Capt. R. W. Chernisky, from R.C.A.F. Station, Cold Lake, Alberta, to the Dental Detachment, Canadian Base Units, United Nations Emergency Force, Middle East;

Capt. R. H. Crowson, from Treatment Wing, R.C.D.C. School, Camp Borden, to the Royal Military College, Kingston, Ontario;

Capt. W. R. Kyle, from headquarters, No. 13 Dental Company, Trenton, Ontario, to R.C.A.F. Station, Cold Lake, Alberta.

Capt. Johnston Takes Release

After completing his tour of duty **Capt. B. G. Johnston** was released from the Royal Canadian Dental Corps on July 14, 1965.

Economics

Fee Pro-Rating Opposed

A resolution opposing the pro-rating of dental fees was adopted by the C.D.A. Board of Governors at its recent annual meeting at Quebec City.

The resolution states that "The Canadian Dental Association hereby records its opposition to the principle of pro-rating dental fees."

Passage of the resolution arose from discussion of a dental plan which recognizes fees contained in provincial fee schedules, with a pro-rating factor, or deduction, of 10 per cent.

Two-Thirds of Canadian Dentists are in Ontario and Quebec

Two-thirds of Canada's 6,215 dentists are in Ontario and Quebec, 42 per cent of them in Ontario alone, according to the 1965 Survey of Dental Personnel released by the C.D.A. Bureau of Economic Research.

There were 6,075 men and 140 women in the profession at the beginning of the year, but there is no way of knowing how many of these are in active practice. There is one dentist for every 3,095 Canadians. However, because of the heavy concentration of dentists in Ontario and Quebec, the ratio is much lower in many parts of the country.

In Newfoundland there is only one dentist for 11,419 persons; in Saskatchewan there is only one for 4,836.

Except for Saskatchewan, the western provinces are better off than most of the eastern; British Columbia has most dentists per population—one for every 2,371 persons. Ontario has one for every 2,511 and Quebec one for every 3,786.

But even within provinces there is uneven distribution: metropolitan centres have the most favourable ratio, and fair sized towns have many more dentists than rural areas.

The three provinces with the poorest supply of dentists lack dental schools: Newfoundland, New Brunswick and Saskatchewan.

There is no correlation between average net incomes earned by dentists and the supply of dentists in a province. Income and education of the population appear to be the main factors in creating a demand for dental services.

The dentist:population ratio in Can-

ada has remained the same for the past three years. In the past decade the number of dentists has increased 16 per cent, but the population has grown 26 per cent.

Serious Dentist Shortage Cited

Canada faces a critical shortage of dentists, a sociologist writes in a report released for the Royal Commission on Health Services on July 29. B. A. McFarlane, chairman of the Sociology Department at Ottawa's Carleton University found that Canada placed fourteenth in a study of dentist to population ratios in 20 countries. He found that Sweden has one dentist for every 1,500 residents, the United States one to 1,900, Switzerland one to 2,400 and France one to 3,000. Canada has one dentist for every 3,108 persons, says Dr. McFarlane.

His study also showed uneven distribution of dentists across the nation and inequalities within provinces.

"For example," the report says, "Ontario, the most populous and wealthiest of the provinces, has rural areas with ratios as high as one dentist per 20,892 persons."

Thus, it adds, "If dentist-per-population is used as a measure of availability of dental services, then rural areas in general are very poorly served."

In suggesting steps to increase the number of Canadian dentists, Dr. McFarlane noted that immigration has supplied practitioners to most of the professions except dentistry. "Most of the other immigrant professionals and scientists trained in Europe and Britain are eligible, after a minimum waiting period, to practise their profession or to teach in Canadian universities, while their dental colleagues suffer the indignity of being returned to the status of a dental student," he writes.

He also recommends that there should be more women dentists, more auxiliary helpers to free the dentist from routine work, and compulsory fluoridation of water supplies. Legal means should be made available to make fluoridation of public water supplies compulsory, he suggests.

R.C.D.S. Advocates Free Dental Care for Aged, Compulsory Fluoridation

The Royal College of Dental Surgeons of Ontario has recommended virtually free dental care for about 75,000 of Ontario's aged citizens and compulsory fluoridation of all community drinking water.

W. J. Dunn, dean of the Faculty of Dentistry, University of Western Ontario, and former registrar of the College, presented the recommendations July 12 to the Ontario Legislature's Committee on Aging. The R.C.D.S. recommendations are similar to those made to the Senate's Special Committee on Aging by the Canadian Dental Association.

Dr. Dunn said the dental services provided the elderly in Ontario "are not something of which you as legislators or we as dentists can be proud."

He estimated that basic dental care could be made available to the 21,300 persons receiving old age assistance and another 54,000 eligible for old age security supplementary allowance for between \$720,000 and \$900,000 annually.

Dr. Dunn advocated a co-insurance feature in the case of dentures for older persons.

The College also urged:

That dental home care programs for shut-ins be set up locally by the dental profession in co-operation with local health officials;

That where practicable, hospitals and other institutions for the aged establish dental departments for their patients; and

That dentists be represented on any permanent body for the aging set up in Ontario.

Prudential Underwrites U.S. Teamsters

The Prudential Insurance Company of America will be the underwriting agent for a new prepaid dental care plan for 100,000 employee-members of the Western Conference of Teamsters. Eligible members are located in Washington, Idaho, Montana, Oregon, Nevada, Utah, Colorado, Wyoming, Arizona, New Mexico, West Texas and California. Employ-

ees and dependants will be covered for benefits up to an amount showing in a schedule of dental allowances. The annual maximum payment is \$600 per individual.

Fluoridation

In Canada over Four Million Have Fluoridation

Over four million Canadians now live in about 250 communities with fluoridated water supplies according to figures released during the recent C.D.A. annual meeting in Quebec City. As it has since 1953, the C.D.A. Board of Governors again adopted a resolution supporting the principle of water fluoridation and urging the people of Canada to adopt the measure.

In 1964, 29 communities began adjusting the fluoride content of their water supplies. Of 29 known plebiscites in 1964, 14 approved fluoridation. Of chief significance was the victory in Ottawa, the nation's capital, in which voters two years earlier had rejected fluoridation.

The C.D.A. report shows that 63 per cent of all Canadians using fluoridated water live in Ontario. Only 39 per cent of Ontarians live in areas with fluoridation, compared with 58 per cent of Manitobans. Nation-wide, 21 per cent of Canadians live in municipalities with fluoridated water. In the United States the figure is 32 per cent.

Preventive Care and Fluoridation Stressed for Children with Birth Defects

A University of Alberta dentist has called for early preventive dental care with special emphasis on fluoridation for children suffering from birth defects. C. R. Castaldi, Edmonton, said that abnormal conditions at birth often result in a higher decay rate of deciduous teeth.

Addressing the 43rd general meeting of the International Association for Dental Research in Toronto, July 23, Dr. Castaldi stressed that preventive dental care

is particularly important for children suffering from birth defects.

Reporting on a study of birth histories of 13,011 children born at the University of Alberta Hospital, he said that premature birth, the most prevalent condition, occurred once in every 12 live births. Later examination revealed that almost one half of these children had pitted enamel of the deciduous teeth.

One out of 50 new-born children had abnormal jaundice at birth and more than half of these children were found to have fully formed deciduous tooth enamel, he stated. Dr. Castaldi also pointed out that cleft of the lip or palate occurred once in every 600 births and one out of every 1,500 children had an erupted deciduous tooth when born.

"Parents whose children have any of these conditions and especially those with premature birth and jaundice at birth should be particularly careful about their children's teeth. If they do not live in a town with community fluoridation, they should start giving their children daily fluoride by prescription," he said.

As soon as the child will co-operate — about 1½ years of age—the parent should clean his teeth carefully at least once daily with a fluoride containing dentifrice. Like normal youngsters, they should make their first visit to the dentist between the ages of two and three years when decay resistance should be bolstered through topical fluoride applications, he said.

Anti's Test Case Cancelled; England Renews Fluoridation Campaign

Britain's two year moratorium on fluoridation ended recently with the withdrawal of anti-fluoridation legal action. The legal challenge was brought by a Watford resident to stop fluoridation in that town, one of England's first fluoridation projects. Backing the legal action was the National Pure Water Association, an anti-fluoridation group.

The test case was undermined by the failure of a similar action in Lower Hutt, New Zealand. In the New Zealand case, the British Privy Council had ruled in

favour of the right of a local authority to fluoridate the water supply.

With the legal obstacle cleared away, Britain's Ministry of Health has renewed its fluoridation campaign by sending letters to all local authorities urging action. The measure is supported by the Ministry as well as the British Dental and Medical Associations.

Decisions for or against fluoridation are made by local health authorities. Their action, however is complicated by the overlapping of water supplies into jurisdictions of more than one health authority.

For instance, London County council transmitted its approval of fluoridation to the Metropolitan Water Board which serves more than six million consumers including residents of nearby counties under other local authorities. Some of the other authorities would not approve fluoridation at that time because of financing, uncertainty for the pending test case.

49 Million Americans Have Fluoridation

Latest statistics released by the U.S. Public Health Service show 48,962,404 Americans in 2,829 communities as of June 22 receive fluoridated water from public water supplies. In addition, there are 7.2 million persons in some 1,900 communities who drink naturally fluoridated water.

A.M.A. Reaffirms Fluoridation Support

The American Medical Association in a recent news release has reaffirmed its support of water fluoridation as an "effective method of reducing tooth decay." The release, issued in connection with the publication of a new pamphlet on fluoridation, stated that the A.M.A. first endorsed the principle of fluoridation of community water supplies in 1951 and further reaffirmed this position in 1957.

Heart Group Says Fluoridation Safe

The American Heart Association has issued a policy statement confirming the

safety of water fluoridation in regard to the circulatory system. The Heart Association approved the position taken by its Council on Epidemiology and its Council on Arterial Sclerosis to the effect that there is no evidence that fluoridation "has any deleterious effect on the cardiovascular system."

Rats Like Fluorides Too

Claims that fluoridation puts rat poison in water were refuted at a televised hearing of Connecticut's legislature on the addition of fluoridation to the state's public health code (see pages 414-5, June Journal). Witnesses included "two lovely, healthy, normal rats," introduced by Estelle Siker, M.D., chief of maternal and child health for the state health department. Favourite beverage of the father and son rats is "fluoridated water," she reported.

Public Health

Vancouver Preschoolers' Teeth Improve

Vancouver's public health and private dentists continue to gain in their fight for better dental health among the city's preschool children. The latest report by S. J. Gallagher, the city's dental director, shows that 7,801 preschool children were inspected last year—the greatest number in the city's history. About 750 were treated by family dentists, 3,832 received care from city dental clinics, and 2,656 (34.3 per cent) required no treatment at the time of examination.

Of 12,500 children inspected in grade 1 last year, 5,803 (46 per cent) had no dental defects, reports Dr. Gallagher. The 1963 results, comparable to those of the previous year, are in marked contrast to 1953 when only 30 per cent of grade 1 entrants had no dental defects.

Dr. Gallagher predicts that these improvements among young preschool and school children will be reflected in a forthcoming dental survey of the entire Vancouver school population.

The only disturbing element, according to the Vancouver director, is a high demand for dental care and low utilization of available dental treatment services in certain parts of the city.

"Many probable explanations may be given for this discrepancy," says Dr. Gallagher. He attributes the causes to language difficulties, lack of appreciation of dental health, and transportation problems.

"This segment of the population is being bypassed and neglected even though the service is available," Dr. Gallagher explains, adding that "a new approach is necessary to reach these people and educate them to the benefits of dental health."

Research

C.D.A. Grants \$12,000 for Research

Through its Council on Research, the Canadian Dental Association has allocated over \$12,000 to research in 1965, according to the council's report to the Board of Governors at Quebec in May.

Fellowships for training and teaching in research totalled \$7,425. Studentships for summer experience in dental research reached \$5,310.

C.D.A. fellowship holders this year include P. A. Bell, who is studying oral pathology and radiology at Toronto; D. V. Chong, in bacteriology at Toronto; and F. W. Lovely, who is completing his master's degree in oral surgery and will join the teaching staff at Dalhousie University Dental School.

Six second and third year dental students received studentships to permit employment in dental school research programs during the past summer. These students provide useful assistance in dental research projects and, it is hoped, may develop an interest in future research. Recipients of summer C.D.A. support in 1965 were A. T. Ball at Manitoba, H. Briggs at McGill, C. E. Donovan at Alberta, E. J. Hannigan at Dalhousie, Miss F. Michaud at Montreal, and Miss S. Wachna at Toronto.

Dental Educators, Researchers Converge on Toronto

Dental educators and research scientists from around the world convened in Toronto during the latter part of July to discuss the latest advances in oral research and new developments in dental education when the International Association of Dental Research held its 43rd general meeting July 22-25 in the Royal York Hotel. Immediately following the IADR meeting, the American Association of Dental Schools conducted its 42nd annual session, which ended July 28.

This is the second time that the two organizations have met in Canada. The first meeting was held in 1930. Both groups have good membership representation in Canada.

More than 460 original papers were presented during the IADR meeting, ranging from oral hygiene techniques for astronauts to special antibiotics for reducing periodontal disease and a new method for treating rabies-infected persons with the rabies vaccine combined with a dental anaesthetic.

IADR president, Professor M. A. Rush-ton of the University of London, England, presided at the meeting. His successor, B. M. Levy, University of Texas, Houston, was installed as new president at the final executive business session of the organization.

A highlight of the meeting occurred on July 25 when President Murray G. Ross of York University, Toronto, was the keynote speaker at the joint session of the IADR and AADS.

Various aspects of dental education were discussed during the four-day AADS meeting, including teaching research in dental anatomy through programmed instruction and dental aptitude testing programs.

A highlight of social events was an open house at the University of Toronto Dental School, July 25.

Forty-eight American dental schools and six Canadian dental schools maintain institutional membership in AADS, which lists among its objectives advancement of dental teaching and research. Two new dental schools, the University of British Columbia Faculty of Dentistry

and the University of California, Los Angeles School of Dentistry, were accepted for membership at this session. Another new school, the Faculty of Dentistry of the University of Western Ontario, will become a member next year.

Awards and Honours

Matthew Robertson of Indian Head, Saskatchewan, has received an honorary life membership from the Western Canada Dental Society.



Don W. Gullett

Retired C.D.A. Secretary **Don W. Gullett** of Toronto was elected a member of honour of the Fédération Dentaire Internationale at the recent F.D.I. annual session in Vienna, Austria.

W. G. Newby of Chilliwack was named 'Dentist of the Year' at the recent annual convention of the British Columbia Dental Association. The award, a personal donation of B.C.D.A. Past President H. G. Pettapiece, is intended to encourage members to take an active interest in community affairs.



Gérard de Montigny

Gérard de Montigny of Montreal was honoured by his colleagues at the C.D.A. luncheon meeting at Quebec City May 31. C.D.A. Past President Rémy Langlois presented Dr. de Montigny with a silver tray in appreciation of 18 years as editor of the French section of the *Journal of the Canadian Dental Association*. Dr. de Montigny retired as editor last year because of heavier responsibilities he has assumed at the Université de Montréal Dental School.

Association

Les représentants de l'A.D.C. expliquent au Ministre de la Santé leur point de vue sur le rapport Hall

La délégation de l'Association dentaire canadienne qui a rencontré Mlle Judy LaMarsh, Ministre de la santé, à Ottawa le 23 juin, était composée de son président, P. S. Christie, de son ex-président, Rémy Langlois, de son président-élu, J. P. Coupland, de même que par son secrétaire, W. G. McIntosh. L'Association dentaire canadienne avait sollicité cette entrevue afin de présenter officiellement au Ministre de la santé l'étude que l'A.D.C. a faite des recommandations dentaires contenues dans le rapport Hall. R. A. Connor, consultant dentaire au Ministère de la Santé nationale, assistait aussi à l'entrevue.

Le docteur McIntosh, secrétaire, a fait remarquer que le mémoire de l'A.D.C. a reçu l'approbation du Conseil des Gouverneurs le 28 mai dernier, et que ce mémoire est de portée nationale. Le président Christie a fait ensuite la révision des idées principales mettant en valeur les points où il y a accord entre la Commission et l'Association, de même que les chapitres dans lesquels l'Association a fait des suggestions différentes des recommandations de la Commission.

Mlle LaMarsh a déclaré qu'il est absolument urgent pour le gouvernement fédéral d'élaborer un programme de traitements. A date, le gouvernement n'a pris, au point de vue dentaire, aucune décision irrévocable et le mémoire de l'A.D.C. arrive à temps. Le Ministre a ajouté qu'elle s'efforcera à l'avenir de consulter la profession avant de prendre des décisions de cette nature.

Nouvelles du Parlement

Mise en œuvre des recommandations de la Commission Hall

Le 29 avril, Stanley Knowles, député de Winnipeg Centre Nord, posait la question suivante à la Chambre des Communes: "Monsieur l'Orateur, je voudrais poser une question au Premier Ministre. Le Ministre des Finances, dans son discours du budget, déclarait que le gouvernement prendra des dispositions conformes au rapport de la Commission royale sur les impôts dès qu'il l'aura reçu, et qu'il modifiera le système des impôts sur le revenu dès 1967. Le gouvernement agira-t-il de la même façon vis-à-vis un rapport qu'il a déjà reçu. En d'autres termes, pouvons-nous attendre l'application des recommandations du rapport de la Commission royale sur les services de santé dès 1967?"

Réponse de l'Honorable L. B. Pearson, Premier Ministre: "Monsieur l'Orateur. En réponse à la dernière partie de la question, je dois dire que ce rapport a déjà été étudié et comme mon honorable ami le sait très bien, une partie de cette étude a amené la convocation d'une conférence fédérale-provinciale qui aura lieu en mai. (Cette conférence a été remise au 19 juillet). Pour ce qui est de la première partie de la question relative au rapport de la Commission royale sur les impôts, mon honorable ami prétend que le Ministre des Finances a déclaré que nous prendrons les mesures nécessaires sur réception de ce rapport. Je m'excuse, mais je ne crois pas que ce soient là les mots exacts du Ministre. Il serait évidemment peu sage de changer le système des impôts avant d'avoir reçu ce rapport que nous nous promettons d'étudier . . ."

Canada

La Saskatchewan aura-t-elle des infirmières dentaires?

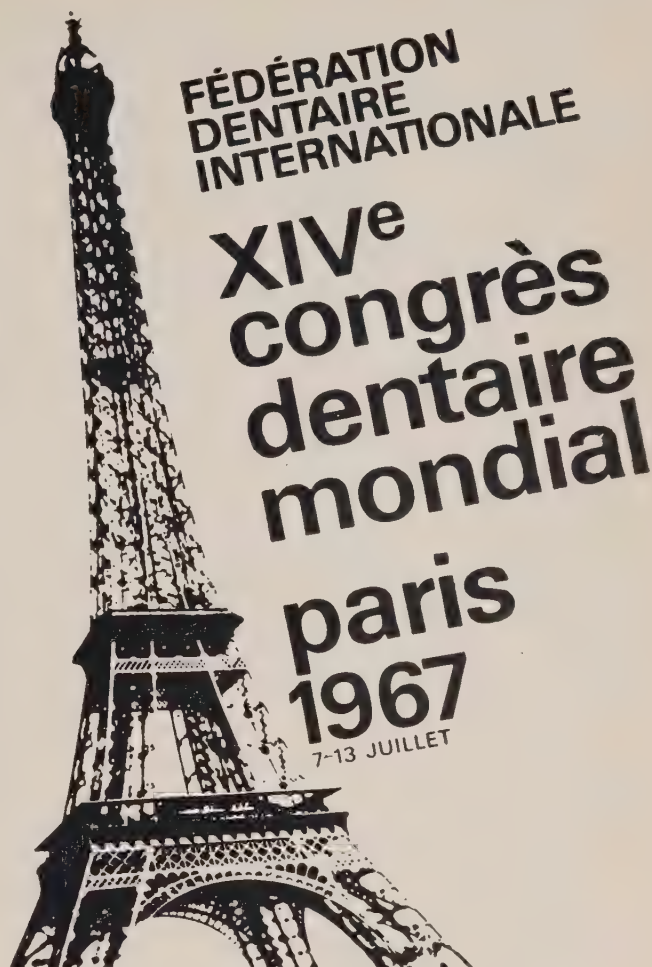
Si l'on en croit le *Saskatchewan Health Newsletter*, du 15 mai, le gouvernement de cette province entamera prochainement des discussions avec le Collège des chirurgiens dentistes de la Saskatchewan dans le but d'établir un programme de santé dentaire qui ressemblerait au programme pour les enfants d'âge scolaire, déjà en vigueur en Nouvelle-Zélande. Le rapport cite D. G. Steuart, Ministre de la santé de la Saskatchewan: "Notre administration étudie sérieusement les moyens à prendre pour intéresser les dentistes des autres parties du Canada, des Etats-Unis et de la Grande Bretagne à venir pratiquer dans notre province, dans les villes de moindre importance qui ont un grand besoin de services dentaires. Avec la collaboration du Collège des chirurgiens dentistes, nous espérons mettre sur pied un programme qui assurera non seulement une augmentation du nombre des dentistes, surtout dans les centres ruraux, mais nous espérons aussi maintenir à un haut niveau la qualité des services professionnels."

Chronique internationale

L'Australie reconnaît les Canadiens

Le Bureau dentaire de l'état de New South Wales en Australie a décidé de reconnaître les diplômés de toute faculté dentaire canadienne et américaine dûment accréditée. Les diplômés de ces facultés peuvent donc s'inscrire sans examen préalable, dans l'état de New South Wales. Il suffit de produire un certificat de moralité et d'établir que le candidat est en droit de s'inscrire ou de pratiquer dans la province ou l'état où il a obtenu son diplôme. Cette décision n'est sujette à aucune mesure de réciprocité.

Le secrétaire de l'Association dentaire canadienne, le docteur W. G. McIntosh a félicité le Bureau dentaire de New South Wales "qui fait un pas de l'avant en re-



connaissant les facultés accréditées dans d'autres pays," et a ajouté qu'il en avisera le Conseil de l'enseignement de l'A.D.C. qui est responsable du programme d'accréditation canadien.

Inscription pour le Congrès mexicain

Les dentistes canadiens qui désirent assister au congrès international qui aura lieu à Mexico du 4 au 18 novembre, peuvent déjà obtenir des formules d'inscription du Secrétariat de l'Association dentaire canadienne. Le programme préliminaire de ce congrès a été publié en page 419 du Journal de juin.

Congrès mondial de Paris en 1967

On attend plus de 10,000 dentistes étrangers au 14ème Congrès mondial de la Fédération dentaire internationale qui sera tenu à Paris du 7 au 13 juillet 1967.

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Bulletin spécial

Activités du Comité législatif su

Le 6 mai, un Comité spécial de la Législature manitobaine a déposé un rapport intermédiaire sur les services dentaires. Depuis un an, ce comité avait pour mission d'étudier le rôle que doivent jouer les techniciens dentaires et les denturistes dans un programme de services dentaires que l'on se propose de mettre en vigueur au Manitoba. Le comité énonce les principes généraux qui présideront à l'élaboration de son rapport final.

1. "La chirurgie dentaire a pour but principal la conservation des dents, et non la vente de prothèses dentaires. Il faut encourager la population à conserver ses dents. Il faut lui faire comprendre que les prothèses dentaires ne sont pas de simples appareils mécaniques que n'importe qui peut fabriquer et qu'il est impossible de les faire sans posséder les connaissances d'un professionnel. Les prothèses dentaires sont nécessaires à la vie et à la santé d'un grand nombre, et comme tout ce qui a trait à la vie et à la santé des individus, elles doivent être bien faites et disponibles à un coût raisonnable.

2. "Les dentistes doivent demeurer entièrement responsables de la santé dentaire du public; ils doivent aussi demeurer responsables de la préparation des pièces de prothèses.

3. "Dans leur domaine restreint, les techniciens dentaires et les denturistes ont développé des capacités qu'il faut utiliser pour le plus grand bien du public. C'est à titre d'auxiliaires du dentiste qu'ils pourront le mieux servir, permettant à un plus grand nombre d'individus de profiter des qualifications spéciales de celui-

ci. Il ne devrait y avoir que deux genres d'auxiliaires pour multiplier le rendement du dentiste: l'hygiéniste dentaire et le technicien dentaire, tous deux ayant une formation et des qualifications bien déterminées. Le comité fera dans son rapport final des recommandations relatives à une loi des techniciens dentaires devant régir qualifications, formation, responsabilité et brevet. C'est au Ministère de la santé qu'il incombera ensuite de mettre cette loi en vigueur.

4. "Le comité n'a pu recueillir aucune preuve à l'effet que la fabrication illégale de pièces de prothèses puisse mettre en danger la santé du public. Il constate cependant, qu'un grand nombre de facteurs individuels entrent en jeu et que pour le plus grand bien du public, il faudrait que seules les personnes qualifiées travaillent dans la bouche des patients. Spécialement, pour les pièces immédiates dont l'usage se répand de plus en plus. Le comité étudie actuellement la possibilité de procéder comme suit:

"Que l'impression soit prise par le dentiste ou par un auxiliaire dentaire dûment qualifié sous la surveillance directe du dentiste. S'il le désire, le patient pourra demander qu'un technicien de son choix fabrique l'appareil sur l'ordonnance du dentiste. Dans un tel cas, ce sera le dentiste qui mettra l'appareil en bouche et en fera les ajustements; jamais le technicien ne fera d'ajustements en bouche.

5. "Il n'est pas indispensable que les petites réparations soient faites sous la surveillance du dentiste. Le technicien dentaire dûment breveté aura droit de

les services dentaires au Manitoba

faire affaire directement avec le public pour les réparations des pièces de prothèses, pourvu qu'il n'ait pas à travailler directement dans la bouche du patient. Le technicien se fera payer directement par le patient et sera personnellement, responsable de son travail.

6. "Le comité constate que bien souvent, on suppose à tort que le nom de denturiste désigne un spécialiste de la fabrication des pièces de prothèses et présuppose des qualifications et une habileté égales ou plus grandes que celles du dentiste. Le comité croit que le terme 'denturiste' tend à induire le public en erreur et devrait être proscrit.

7. "Le comité étudie des suggestions voulant que la Faculté de chirurgie dentaire de l'Université du Manitoba devienne responsable de l'élaboration du programme d'études dans tous les domaines de la santé dentaire, même si tout l'enseignement n'est pas donné à l'université. La Faculté dentaire deviendrait ainsi responsable du maintien d'un haut standard de soins dentaires pour le plus grand bien de tous. Tout programme visant à augmenter le nombre d'hygiénistes dentaires et de techniciens libérerait le dentiste de son travail de routine et lui permettrait de soigner un plus grand nombre de patients. Le comité étudie la possibilité d'intégrer les denturistes dans un programme d'hygiène dentaire totale. Il croit pouvoir le faire au moyen de programmes de formation pour les hygiénistes et les techniciens dentaires, et grâce à une loi des techniciens dentaires. Il y a actuellement 15 denturistes par rapport à

100 techniciens dentaires au Manitoba.

8. "Le comité croit qu'il serait possible d'améliorer les relations entre le public et le dentiste, et il fera des recommandations en ce sens dans son rapport final. Par exemple, le comité étudie des suggestions demandant à l'Association dentaire du Manitoba (a) de préparer et de publier une liste d'honoraires, (b) de faire connaître au patient l'existence du Comité de médiation qui existe déjà et où l'on peut s'adresser pour régler des différends au sujet des honoraires, (c) de demander que le dentiste qui prépare des pièces de prothèses présente à ses patients des factures détaillées indiquant séparément ses honoraires et ceux du technicien.

9. "Le comité remarque que le Manitoba Denture Clinic qui existe depuis 1960, offre au public des appareils de prothèses à un coût modique. Les dentistes qui travaillent dans cette clinique ont présenté un mémoire au comité et font savoir qu'ils ont pris soin de 9,436 patients. Tout Manitobain peut s'y faire fabriquer une pièce de prothèse pour la somme de \$85.00 sans avoir à faire état de son revenu personnel. On peut aussi bénéficier de plan de paiement différé au besoin. Ces honoraires se comparent favorablement au prix demandé aujourd'hui par le denturiste. Le comité croit que la multiplication de cliniques de ce genre au Manitoba pourrait aider à la stabilisation du prix des pièces de prothèses. Le comité étudie les recommandations visant à donner plus d'ampleur au Manitoba Denture Clinic."

Un rapport définitif beaucoup plus élaboré sera préparé plus tard.

Les principaux sujets au programme: recherche dentaire, chirurgie buccale, dentisterie opératoire, orthodontie, pédo-dontie et prothèse. On est à préparer une importante exposition commerciale (derniers outillages et accessoires dentaires), de même qu'un programme d'activités sociales de toute sorte.

Les dentistes canadiens qui ont l'intention de visiter Paris à ce moment-là seraient sages de réserver longtemps à l'avance leur chambre d'hôtel.

Pour tout renseignement, s'adresser à Jacques Charon, secrétaire général du 14ème Congrès Mondial, 12 rue du 4 Septembre, Paris 2e, France, ou à G. H. Leatherman, secrétaire général de la Fédération dentaire internationale, 35 Devonshire Place, Londres W.I., Angleterre.

Organismes dentaires

Le Dr Boisclair président de l'Association dentaire de la province de Québec

Le docteur Guy Boisclair a été élu président de l'Association dentaire de la province de Québec à la réunion annuelle de cet organisme tenue à Québec le 2 juin. Il succède au docteur J. G. A. Grenon de Québec. Les docteurs Vincent Dontigny et Conrad Godin des Trois-Rivières, ont été élus respectivement secrétaire et archiviste.

Le prochain congrès provincial aura lieu à Murray Bay du 8 au 11 juin 1966, sous les auspices de la Société dentaire de la Mauricie.

L'Académie de dentisterie restaurative se réunit à Montréal

L'Académie canadienne de dentisterie restaurative se réunissait pour une journée d'étude le 29 mai, à Montréal. A la session du matin, tenue à l'Université de Montréal, on entendait les exposés suivants: "Inlay à crampon," par R. T. Lamb de Montréal; "Céramique, matériau esthétique," par S. Katz de Winnipeg; "L'or pour la restauration esthétique des dents antérieures," par G. A. Brass de Winni-

peg; et "Une recension des publications sur la dentisterie restaurative pour l'année 1964-65," par D. B. McAdam de Toronto.

Les sujets de la séance de l'après-midi tenue à l'Université McGill: "Préparation de coiffes de céramique sous la digue," par A. F. Cameron de Montréal; "Emploi de la résine acrylique pour les cavités de classe III," par D. C. Gordon de Montréal; "Forme de contour harmonieuse pour cavités classe V pour aurifications," par G. H. Deschênes de Montréal; et "L'inlay à crampons," par R. T. Lamb de Montréal également.

Facultés dentaires canadiennes

Cours pour assistantes dentaires à l'Université de Montréal

Le Service d'Extension de l'enseignement de l'Université de Montréal offrira en septembre prochain un cours du soir pour les assistantes dentaires. Le nouveau cours fait suite à une expérience pilote conduite par la Société dentaire de Montréal. Les candidates qui auront complété avec succès les deux parties de ce cours recevront un certificat de compétence décerné par la Faculté de chirurgie dentaire. Le premier semestre comprendra environ 35 heures de cours théoriques. Le deuxième offrira 40 heures de cours pratiques et de travail à la chaise du dentiste.

Le docteur Jacques Bélanger, clinicien à la Faculté de chirurgie dentaire, dirigera le nouveau cours; il sera assisté par le docteur Claude Madore, chirurgien buccal, actuellement responsable de tous les cours de perfectionnement à la Faculté. Les docteurs Bélanger et Madore croient qu'il ne s'agit là que d'un début dans le domaine de la formation des assistantes dentaires. Ils suivent avec intérêt l'expérience qui se fait actuellement dans trois banlieues de Toronto où les élèves de 11ème et 12ème années peuvent se spécialiser comme assistantes dentaires tout en suivant le cours régulier.

C'est en novembre dernier que le docteur Madore a présidé à la formation de l'Association des infirmières et assistantes dentaires qui est maintenant affiliée à

l'Association nationale des infirmières et assistantes dentaires. Les docteurs Bélanger et Madore espèrent pour bientôt la création d'un bureau de placement pour assistantes dentaires.

Octroi fédéral à la clinique de l'Université de Montréal

Le Ministère de la Santé nationale a approuvé un octroi fédéral de \$86,500.00 à la Faculté de chirurgie dentaire de l'Université de Montréal.

L'octroi sera utilisé pour l'organisation d'une clinique de soins dentaires pour les enfants de familles nécessiteuses de la région de Montréal. Les étudiants participeront à ce programme qui offre non seulement des soins dentaires, mais cherche aussi à faire l'éducation des patients au point de vue hygiène dentaire.

Palmarès

Le docteur **Ernest Charron**, ancien doyen de la Faculté de chirurgie dentaire de l'Université de Montréal, a été nommé doyen honoraire le 6 mai dernier.

Le premier prix du Concours mémorial de guerre de l'Association dentaire cana-

dienne pour 1965 a été attribué à **D. C. Chin** de l'Université McGill de Montréal. **A. E. Dempster** de l'Université de Toronto a remporté le deuxième prix.

A sa 43ème réunion annuelle tenue à New-York le 28 février, la Northeastern Society of Orthodontists a choisi **Gerald Franklin** de Montréal comme président pour l'année à venir.

Lors de son Congrès tenu à Toronto le 19 mai, l'Ontario Dental Association a conféré le titre de membre honoraire à vie à **Don W. Gullett**, ancien secrétaire de l'Association dentaire canadienne qui a quitté son poste le 31 décembre 1964.

Le 27 mai, l'Université de Montréal a conféré un doctorat honorifique au docteur **Paul Geoffrion**, ancien doyen de la Faculté de chirurgie dentaire.

W. G. Newby, de Chilliwack, a été choisi comme 'Dentiste de l'année' à la réunion annuelle de l'Association dentaire de la Colombie britannique. Le prix offert par le docteur H. G. Pettapiece, ancien président de l'A.D.C.B., a pour but d'encourager les membres à prendre une part active dans les affaires publiques.

Délibérations de l'A.D.C. • Les *Délibérations* de l'Association dentaire canadienne renferment des comptes rendus du travail de ses conseils, de ses comités et de ses bureaux. On conseille à tous les dentistes du Canada de lire ces *Délibérations* qui sont publiées après la réunion annuelle du Conseil des Gouverneurs.

L'Orthodontie française: Volume 34, 1963

J. E. Heskia, rédacteur. Lyon, France, Edition de la Société française d'orthopédie dento-faciale, 1963. 392 p. Illus. Fr. 80.00

Comme elle le fait chaque année, la Société française d'orthopédie dento-faciale vient de publier les communications qui ont été faites durant son 37ème congrès qui a eu lieu à Toulouse en mai 1963 et durant la deuxième session tenue à Paris en novembre 1963.

Parmi les nombreuses communications présentées dans ce volume, deux ont surtout attiré notre attention. L'une a pour titre "Prophylaxie des anomalies dento-maxillaires" dont l'auteur est le Dr Jean Fraudet, et l'autre a pour titre "Données récentes sur les forces orthodontiques: conséquences pratiques" dont les auteurs sont M. et Mme Louis Muller de Paris.

Dans son rapport sur la prophylaxie des malocclusions le Dr Fraudet après avoir étudié longuement les anomalies d'évolution des dents et les anomalies des procès alvéolaires conclut que dans la plupart des cas il ne peut y avoir en orthopédie dento-faciale de prophylaxie vraie au sens propre du mot. Tout ce que le praticien peut faire c'est de prévenir l'apparition de signes cliniques d'une affection qui existe déjà. Ce qui n'est plus une prophylaxie orthodontique mais bien une prophylaxie des complications de ces maladies. Le Dr Fraudet s'élève aussi contre l'emploi abusif des 'space maintainers' qu'il considère inutiles dans beaucoup de cas.

Dans leur communication sur les "Données récentes sur les forces orthodontiques," M. et Mme Muller après avoir étudié les facteurs influençant les forces exercées par les fils orthodontiques complètent leur exposé en ajoutant les remarques suivantes.

1. Il est nécessaire que soit bien établie la distinction entre force continue et force constante: une force est continue lorsque son action se prolonge sur une certaine période de temps, quelles que soient les variations de son intensité. Une force est constante lorsqu'elle est continue et que son intensité ne décroît que lentement et progressivement au cours de son action — "Le système de forces orthodontiques vers lequel on doit tendre est celui qui fournira une force constante, avec une marge d'activité optimum" (Burstone).

2. Une force douce, obtenue avec des éléments réduisant le rapport charge-flexion et prolongeant la durée d'action, permet d'obtenir, pour le recul du groupe incisif, un mouvement très voisin de la translation pure, avec un minime mouvement de rotation des apex en direction vestibulaire. Cette force, évaluée aux environs de 100 Gr., est alors susceptible d'utiliser des systèmes mécaniques très délicats (Burstone).

3. L'utilisation des forces, même légères et constantes, doit être contrôlée: la perte de stabilité de l'ancrage et les déplacements individuels provoqués par les réactions des divers leviers incorporés dans le système mécanique, lorsqu'il s'agit d'arcs continus légers, sont au nombre des inconvénients à éviter.

Ce livre contient aussi, beaucoup d'autres communications très intéressantes.

This interesting book contains all the papers given during the 37th Congress of the Société Française d'Orthopédie Dento-Faciale. The first session of the congress was held at Toulouse in May 1963. The section session, in November 1963, was held in Paris.

Among the many reports presented in this volume, two communications given by Dr. Jean Fraudet and Dr. and Mrs. Louis Muller have attracted our attention. In his paper on "Prevention of Dento-Maxillary Anomalies," Dr. Fraudet concludes from his prolonged study of the anomalies of evolution of the teeth and anomalies of the alveolar process that true prevention is impossible in the majority of cases. All the practitioner can do is to prevent the appearance of clinical signs of a condition that already exists. This, however, does not constitute true orthodontic prevention; it is prevention of the complications of these anomalies. The author also objects to the indiscriminate use of space maintainers which, he considers, are used too frequently.

In their paper on orthodontic forces Dr. and Mrs. Muller describe the characteristics of springs used in orthodontic treatment. They devote special attention to the effects of the cross-sectional diameter, shape of cross-section, and length of wire on load deflection rates and maximum load. They describe practical applications of these mechanical principles to sectional bundle archwires, sectional ribbon arches, sectional

laminated arch-wires for cuspid retraction and loop configuration. They show types of loops improved according to the above principles, which have been designed by Burstone, Stoner and Thurow.

These authors conclude their paper with the following remarks: (1) A distinction should be made between a continuous force and a constant force. A force is continuous when its action is prolonged over a certain period of time, whatever the variations of its intensity may be. A force is constant when it is continuous and when its intensity decreases slowly and progressively during the course of its action. Orthodontic forces should be gentle and constant. (2) A gentle and constant force permits the application of very delicate mechanical systems in the treatment of malocclusions. The utilization of gentle and constant force must, however, be controlled. The loss of stability of anchorage and the individual movements that are caused by the reactions of the different levers incorporated in small arches are disadvantages that should be avoided during the treatment of malocclusions.

This book, which is written in French, also contains many other interesting papers.

Paul Geoffrion

Organization of Dental Public Health Services

Report of a World Health Organization Expert Committee on Dental Health. Geneva, WHO Technical Report Series No. 298, 1965. 44 p. Published also in French and Spanish. Available in Canada from the Queen's Printer, Ottawa. \$1.00

This report examines the organization of dental health services as an integral part of the public health services in both developed and developing countries. The patterns of organization differ in different countries, but the underlying general principles are everywhere the same. The planning of dental health services should follow a logical sequence, beginning with the collection of information on the situation—the extent of dental and oral diseases and of unmet needs, the facilities available, community attitudes and awareness of its needs, financial resources, health plans in general, the general situation of the country, and so forth. When the data have been assembled, the successive phases should then be the establishment of priorities, then of targets and objectives, consultation with other bodies concerned and co-ordination of efforts, the drafting of the plan, and periodic evaluation and adjustment of the plan.

The Expert Committee discusses each of these phases at length, as well as training needs in dental public health and research. It also devotes a section of the report to

special problems in the development of dental public health services in newly independent countries. An appendix contains examples of organizational patterns in some countries.

Oral Pathology: An Introduction to General and Oral Pathology for Hygienists

D. A. Kerr and M. M. Ash, Jr. Ed. 2. Philadelphia, Lea & Febiger, 1965. (Available from The Macmillan Co. of Canada Limited, Toronto) 275 p. Illus. \$7.15

In 1960 the authors introduced this book to satisfy the needs of dental hygienists in the field of pathology. The standard texts are more extensive and detailed than is necessary, yet the dental hygienist must have a good grasp of the principles of pathological processes in order to perform her clinical services in a rational manner. The fundamentals of general pathology and their applications to the oral region are presented to help the hygienist appreciate the basis of treatment procedures.

This new, second edition has continued this philosophy with additions and up-dating of existing material. Two entirely new chapters on endocrine diseases and blood dyscrasias have been added and the discussions of nutrition have been expanded and presented as a separate chapter on nutritional disturbances. There are numerous additions and amplifications throughout the text that have added 68 pages to the book, resulting in a well-balanced text for the dental hygienist.

H. A. Hunter

Elements of Dental Materials

R. W. Phillips and E. W. Skinner. Philadelphia and London, Saunders, 1965. (Available from McAtinsh & Co. Limited, Toronto) 219 p. Illus. \$6.50

Few dentists would disagree that the development of a body of knowledgeable, well-trained dental auxiliaries is of great importance. This book is well suited to assist in attaining this goal.

The authors state that the aims of a course in dental materials for auxiliaries are not identical to those of one for dental students but they are inevitably closely related. The selection of topics is probably much the same for both groups; but depth of coverage and the emphasis on effects of variation in technique are presented in this book in a form especially suited to the needs of the dental auxiliary.

An assistant with an adequate knowledge

of dental materials and the effects of manipulative variables will be better able to perform many techniques competently and intelligently. There is suitable emphasis on the effects of variations in handling procedures on dental materials, and this information is particularly well illustrated by diagrams, photographs, and graphs. The dental hygienist may or may not be required to perform the duties of a chairside assistant, but a knowledge of the properties of materials used in the mouth will make her more effective as a patient educator, and better informed and more interested in aspects of dentistry outside her immediate field.

The scope of the text is broad. Virtually all areas of dental materials pertinent to clinical dentistry with which the auxiliary may come in contact are covered. Should an instructor or student wish to pursue a topic further, selected references are included for each chapter. Illustrations are plentiful and excellent.

The trend to create texts designed specifically for dental auxiliaries is most commendable. The authors deserve congratulations for producing a much needed text which should assist in bringing about closer understanding and easier communication between the dentist and his auxiliaries.

Margery G. E. Forgay

Principles of Periodontics

J. O. McCall. Philadelphia and Montreal, J. B. Lippincott, 1964. 83 p. Illus. \$4.50

Textbooks on periodontics are predominantly thick and comprehensive. McCall, in his *Principles of Periodontics*, has eliminated much in the way of reference material and dealt briefly with basic concepts. The seven chapters in the book are in part or wholly reprints of papers of McCall's more recent publications.

Dr. McCall interjects a considerable amount of personal comment in his writing. This confers individuality to his publications. But in such a condensed book the space items used could well have been devoted to further consideration of basic principles and concepts. Of the 83 pages, approximately 55 are text and approximately 23 pages are illustrated.

Periodontics has long needed a concise text dealing with some of the basic concepts. This compact book would be a valuable acquisition for a general practitioner as an introduction to periodontics.

M. W. Packer

Theory and Practice of Crown and Bridge Prosthodontics

S. D. Tylman. Ed. 5. St. Louis, Mosby, 1965. 1249 p. Illus. \$18.00

This fifth edition of Dr. Tylman's textbook of crown and bridge prosthodontics is in the same excellent vein as its predecessors. In large measure this book is a reproduction of the fourth edition with the addition of some new chapters.

One new chapter written by George Moulton deals with gnathology. This chapter considers use of the Hanau University articulator Model 130-21 and the adjustable hinge axis face bow Model 130-3056 using check-bite records. Dr. Moulton deals with the technique of using these instruments rather than with theoretical considerations, a useful feature for students of gnathology.

Two other new chapters have been contributed by R. C. Brumfield. One is concerned with the fundamental mechanics of dental bridges. The other deals with structural investigation and design of dental bridges. Both chapters are highly theoretical and provide much room for thought. While dentists are not generally familiar with the principles of mechanics, the material is presented in an understandable manner and explains scientifically the unchangeable mechanical laws which control success or failure in bridge design.

As always this book is a necessity for every serious student, teacher and practitioner of crown and bridge prosthodontics. The author covers all phases of the subject and presents his material clearly and logically. The extensive bibliography amply demonstrates the extent to which the writings of other men have been researched in an effort to make the book as complete as possible. Surely Dr. Tylman's books on crown and bridge prosthodontics will long be classed with the great books of dentistry.

W. H. Boyles

FEASIBILITY OF INTRODUCING A NATIONAL DENTAL HEALTH SCHEME IN CANADA FOLLOWING THE RECOMMENDATIONS OF THE HALL COMMISSION

Those who attended the Canadian Dental Association panel at the national convention in Quebec City heard a vigorous discussion and spirited debate on the feasibility of the national children's dental treatment program advocated by the (Hall) Royal Commission on Health Services. The principals in this discussion were J. M. Chamard, a practising Montreal dentist; J.-P. Lussier, dean of the Faculty of Dental Surgery, Université de Montréal; and Jean Marchand, former president of the National Confederation of Trade Unions.

Dr. Chamard and M. Marchand clashed over the central philosophy of the Hall Report as expressed by the recommendation for a universal, tax-supported, clinic-based and auxiliary-operated children's treatment program. Dr. Chamard questioned whether health is an individual right as well as a social responsibility. He warned the audience that there are corresponding obligations for every right claimed by the individual. Democracy is imperiled when the individual claims a right but rejects the correlative obligations, transferring the latter to government which in turn assumes greater authority. This, he suggested, is a real danger inherent in the Hall Report.

M. Marchand, on the other hand, bluntly asserted that access to dental care for all must take precedence in a modern society over principles that dentists value. If this could be achieved through private practice, all well and good. But the evidence, he contended, demonstrates that the existing order has failed to produce the desired results.

Dr. Lussier discussed the requirements for dental personnel in relation to the Hall proposals. He expressed confidence in Canada's ability to produce the number of dentists projected by the Commission but he agreed that dentists alone cannot furnish the care that will be required if all Canadian children and adolescents are to receive dental care 15 or 20 years hence. Noting the profession's opposition to the auxiliaries favoured by the Commission, Dr. Lussier described an alternative solution—a two-pronged attack which requires prior implementation of preventive measures and which would use the present kinds of personnel (dentists, dental hygienists, dental assistants, dental laboratory technicians), deploy these in teams and increase their productivity.

The editors appreciate the opportunity of publishing these three provocative articles and welcome constructive comments from readers with a view to improving the usefulness of such presentations to the profession.

POSSIBILITÉS D'INSTAURER UN PROGRAMME NATIONAL DE SANTÉ DENTAIRE AU CANADA SUIVANT LES RECOMMANDATIONS DE LA COMMISSION HALL

Le panel qui a eu lieu durant le congrès national de l'Association dentaire canadienne a donné lieu à une discussion animée sur la possibilité d'établir un programme national de traitements dentaires pour les enfants, d'après les recommandations de la Commission Hall sur les services de santé. Les panelistes étaient le docteur J. M. Chamard, omnipraticien de Montréal; le docteur Jean-Paul Lussier, doyen de la Faculté de chirurgie dentaire de l'Université de Montréal; et monsieur Jean Marchand, ancien président de la Confédération des syndicats nationaux.

Le docteur Chamard et monsieur Marchand ont échangé des idées diamétralement opposées sur la philosophie du rapport Hall et sur ses recommandations relatives à un programme de traitements dentaires pour les enfants qui soit accessible à tous, financé par des taxes, et dont les traitements soient donnés dans des cliniques par des auxiliaires dentaires. Le docteur Chamard a mis en doute l'existence du droit de l'individu à la santé de même que la responsabilité sociale correspondante. Il y a, a-t-il dit, une responsabilité attachée à chaque privilège que réclame l'individu. L'organisation démocratique de la société est mise en danger chaque fois que l'individu réclame un droit mais refuse d'accepter la responsabilité correspondante, la laissant assumer par le gouvernement qui prend ainsi de plus en plus d'autorité. C'est sur ce point, dit-il, que le rapport Hall est dangereux.

Par ailleurs, monsieur Marchand affirme carrément que, dans une société moderne, les soins dentaires doivent être accessibles à tous, même s'il faut pour cela sacrifier des principes auxquels les dentistes tiennent beaucoup. S'il nous était possible d'atteindre notre objectif par l'intermédiaire de la pratique privée, tout serait pour le mieux. Mais les statistiques de la commission d'enquête démontrent, à la satisfaction de monsieur Marchand, que le système actuel n'a pas produit les résultats désirés.

Le docteur Lussier a traité du problème du personnel dentaire et de la solution qu'y apporte la Commission Hall. Il a dit croire que le Canada pourra produire le nombre de dentistes qui sera nécessaire d'après les prévisions de la commission d'enquête. Il a dit aussi croire qu'à eux seuls, les dentistes ne pourront pas suffire à la tâche s'il faut traiter tous les Canadiens, enfants et adolescents, dans 15 ou 25 ans. Faisant état de l'opposition de la profession aux auxiliaires que propose la commission d'enquête, le docteur Lussier a proposé une solution de rechange. D'abord, la mise en vigueur de toutes les mesures préventives, et ensuite l'utilisation la plus efficace possible du personnel dentaire actuel (dentistes, hygiénistes dentaires, assistantes dentaires et techniciens de laboratoire).

En publiant ces trois articles, la rédaction espère susciter chez ses lecteurs des commentaires constructifs susceptibles de servir à toute la profession.

A dentist's appraisal

J. M. Chamard, D.D.S., Montreal, P. Quebec

As we approach the Hall Report let us first take a look at the spectacular achievements of the medical profession. This is at the crux of the situation because if physicians were still using such therapeutic devices as leeches, dung, and incantations by the light of the moon, then health service would not be the political football it is today. At some stage in its arduous journey from witchcraft and demonology to present day standards the medical profession came upon a spectacular technique which opened new vistas for mankind. This was probably a gradual process and what it amounted to was the substitution of the mystical by the rational—the application of reason to human problems. Physicians began to utilize the inductive method, the careful study of the relation of cause and effect, total objectivity, and all this culminated in the scientific approach, which accounts for all the things we marvel at today.

We are much in debt to the medical profession. At times, in the evolution of the profession, physicians were opposed, sometimes strenuously, by the witch doctor, the churchman, and those in established authority, and always by the fears, superstitions, and fetishes of mankind. Opposed by these, they were aided by others—nurses, pharmacists, opticians, a modest assist by the dental profession, and latterly tremendous help from the drug industry. The end result of all this has been truly spectacular. Most diseases are eliminated or controlled, surgical procedures border on the miraculous, and

pain and suffering are largely removed from human experience. We owe an enormous debt of gratitude to the medical profession.

And how are we, the people, reacting to this tremendous boon? Not too intelligently, I am afraid. We are being assailed by a new group of witch doctors who tell us: "Ah! This is fine, as far as it goes, but it doesn't go far enough! We will have to take over and see that these marvellous things are made available to all regardless of this, that and the other thing, and at no cost!" And so we, the Public, are in somewhat the same position as the dog in the fable. We are on the bridge, T-bone in mouth. The witch doctors are pointing out the reflection in the



water. If we heed them and if certain principles are ignored we may lose this priceless possession, this generous gift from the medical profession.

Let us examine the situation.

First, the basic concepts or philosophic premises of the Hall Report. These are embodied in two quotations starting on page 6.

The first is from the preamble to the Charter of the World Health Organization. The Commissioners remind us that we have signed the Constitution of WHO; so we subscribe to its principle. This is it: "The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."

John Locke, many years ago, expounded the natural, fundamental or basic rights of man as the rights to life, liberty, and property. One writer describes Locke's position as, "There are natural rights of man which existed before all foundations of social and political organizations, and in view of these, the real function and purpose of the state consists in admitting such rights into its order and in preserving and guaranteeing them thereby."¹

The natural rights of life, liberty, and property have stood the test of time. One should not be murdered, incarcerated, or robbed. If the World Health Organization adds 'health' to this list, it is an acquired right and if we accept it, then we would be wise to look to the source of this acquisition.

The second quotation is from a book written by Sir Arthur Newsholme in 1932. I purposely omit the lead sentence of this quotation because I consider it dated and inappropriate to the contemporary scene. The quotation continues: "In the first place, the health of every individual is a social concern and responsibility, and secondly, as following from this, medical care in its widest sense is an essential condition of maximum efficiency in a civilized community."²

This is the other side of the same coin.

Since government is the only means of implementing 'social responsibility,' then the philosophy of the Hall Report would seem to be that health and health care

is an individual right and a government responsibility. If we, the Canadian public, go along with these philosophic premises, we are better dead.

It is axiomatic in human action that authority must be commensurate with responsibility. If we therefore accept health and health care as a right and abnegate total responsibility to government, then corresponding or commensurate authority will have to go with it. Let us not delude ourselves on this very important point. Sir Arthur Newsholme was intelligent enough and honest enough to concede it, and had the Commissioners gone a little further into this dusty book, they would have found the following on page 48: "It is appropriate and indeed inevitable that the giving of official grants of money must carry with it a corresponding control by the representatives of the tax and ratepayers."²

This is another way of saying 'who pays the piper calls the tune' and is a valid observation. The Commissioners, on the other hand, insist, in Articles 5 and 6 of the Health Charter for Canadians, that such authority will not be exercised:³

Article 5. "Freedom of choice" means the right of a patient to select his physician or dentist and the right of the practitioner to accept a patient or not accept a patient except in emergency or on humanitarian grounds.

Article 6. "Free and self-governing professions" means the right of members of health professions to practise within the law, to free choice of location, and type of practice, and to professional self-government. With respect to "institutions" it means academic freedom for medical, dental, and other professional schools and hospitals, freedom from political control or domination, and encouragement of administration at the local level.

This smacks of snake oil and cannot be reconciled with the philosophic premises of the Hall Report. Furthermore, the spectacle of the Commissioners stumping the country trying to sell this implausible bill of goods is not convincing. What exactly do the Commissioners mean?

The Steering Committee of the Canadian Dental Association has done a wonderful job of appraising the dental recommendations of the Hall Report. This

committee stressed the importance and urgency of preventive measures, discussed aspects of the manpower problem, evaluated the proposed Children's Dental Health Program, and other recommendations. All this was done under enormous pressure and prodding, which was totally uncalled for. After all, the Commissioners had three years to prepare their report, whereas we are pushed for what amounts to a snap diagnosis on matters of grave concern to the Canadian public. You are acquainted or will be acquainted with the official C.D.A. position (J. Canad. D.A. 31:462, July 1965) on the Hall Report; therefore I will not touch on this.

I would like to draw your attention, however, to a statement on page 261 of the Hall Report which could be of interest to dental practitioners. This is under the chapter on "Health Manpower," and it reads as follows:³ "In Canada dentistry is predominantly an independent, fee-for-service type of practice. It is perhaps the health profession least marked by salaried employment or the concentration of personnel in large groups. This manner of organizing dental service is accompanied by a generally inadequate level of dental health."

Here comes the oft repeated question — what exactly do the Commissioners mean by this? By the very fact of making this statement they imply a causal relationship, and this constitutes a totally unjustifiable insult to the dental profession in Canada. In order to evaluate a continuing process it is necessary to fix at least two points in time. This the Commissioners have not done. Taking the first point as the present, I would say that if we fix the second point anywhere in the past 30 years (the range of my experience) we would find the level of dental health has improved considerably in spite of geographical limitations and the increasingly pernicious dietary habits of the populace. Another, perhaps even better, way to evaluate our performance would be to compare the level of dental health here with that in countries where a different manner of organizing dental service exists, such as Russia. This, again, the Commissioners have not done. The self-imposed responsibility of the dental pro-

fession to date has been to meet the effective demand for our service, and this we have done exceedingly well. This still does not answer the question of what the Commissioners mean by their statement on page 261. Is it a threat of some kind?

This suspicion is strengthened when we examine the treatment accorded our friends in the drug industry by the Hall Commissioners. They have been singled out for execution. I refer to them as our friends because anaesthetics, analgesics and antibiotics have been a tremendous boon to dentistry. It all hinges on the matter of costs. The cost of drugs is one of our many cost components. We are concerned with costs. (The most distressing component of our cost is duty on dental equipment, none of which is manufactured in Canada. This is by the way.)

Two things could be done to reduce cost of drugs to the public: (1) remove all government devices which add to the cost, such as duty and taxes; and (2) subsidize where necessary, especially in the catastrophic category. This could be done along genuine insurance lines.

But this is not the Commissioners' approach. They devote three chapters to the drug industry. Chapter headings attract reader attention as do footnotes, yet there are no chapters devoted exclusively to dentistry. In the three chapters on drugs there are 124 footnotes referring to the Report of the Commission on Restrictive Trade Practices. In the open text there are 71 references to this same Report, to the Green Book which is an appendix of same, and to the Combines Investigation Act. All this creates a rather sinister background. Actually, the Report of the Commission on Restrictive Trade Practices did not result in any fines or convictions; indeed, this Report presented no evidence of restrictive trade practices. Instead this Commission made seven recommendations, most of which could be considered as outside their terms of references. By contrast the Hall Commission, using more or less the same findings, came up with 25 recommendations and summarizes its intent in a remarkable statement on page 40, a statement which is probably the death warrant of the drug industry. This is it:³ "Although we accept that the manufacture

and distribution of drugs in this country is a private enterprise venture, we have no hesitation in stating that the public interest is dominant. When we speak of the availability of a large number of specific drugs, we are talking in terms of the lives and the health of people. Either the industry will itself make these drugs available at the lowest possible cost, or it will be necessary for agencies and devices of government to do so."

The Commissioners' meaning comes through loud and clear. This is an open threat of government take-over of an important industry, and by a Royal Commission! Surely the witch doctors are trying to usurp the role of the tribal chieftains of which we have many. And if the health and lives of people serve as the pretext, what about the food industry? What about fuel, housing, and clothing? Where do these gentlemen plan to stop?

There is a certain Alice-in-Wonderland quality to all this, which should put us in the mood for one final statement which appears on page 13 of the Hall Report:³ "A nation that in 1962 spent \$756 million on cigarettes and tobacco, and \$973 million on alcoholic beverages can afford the program we have recommended, which would involve an additional \$466 million in 1971."

This is fabulous! The Commissioners have put the rub on Aladdin's lamp. If they are right, then by this formula, if you have a car and a television set, you can afford a house, and if you have all three and a child in college, you can certainly afford a new suit and a trip to Europe.

We dentists are not economists, whereas some of the Commissioners are economists. My bank manager, however, is an economist and I must say that I am impressed with his grasp of practical affairs. I would hesitate to bring this Hall Commission formula to his attention because I think it might make him nervous. If we applied it to the practice of dentistry, quite frankly I would worry about collections. Ours is mainly an elective health service, and we are aware of the priorities people put on their own spending. Do the Commissioners plan to change this pattern? Does this remarkable statement presage prohibition and a

ban on smoking? What exactly do they mean?

In closing I would like to touch on three attitudes extant in Canadian affairs, all of which can bear watching, and are germane to this discussion. They are (1) the Santa Claus syndrome; (2) belief in the magic of federal funds, and (3) expectation of the Kingdom of Heaven on Earth.

The Santa Claus syndrome is the persuasive effort on the part of government to convince us that we can get something for nothing. This is a fallacy. Government creates nothing. It can only give what it takes, with a considerable erosion in the process. This characteristic of government was pointed out by Frederic Bastiat: "The State has two hands, one for receiving and the other for giving—a rough hand and a smooth one. The activity of the second is necessarily subordinate to the activity of the first. Strictly speaking, the State can take and not give back. This can be seen and can be explained by the porous, absorbing nature of its hands, which always retain part, and sometimes all of what they touch."⁴

With the current Galbraithian technique of gearing spending to some projected gross national product in the future, it is possible that when we think we are getting something for nothing we are in reality sponging on our own grandchildren. There is no Santa Claus. Canadians know this, but since all political parties are wedded to this vote-getting device, the welfare state is coming into Canada by default.

Belief in the magic of federal funds is especially notable in dental affairs. Starting with the premise that we need or will need more dentists, we wave a magic wand of federal funds to bring them into existence. Federal funds for new dental schools, federal funds to subsidize the training of new teachers, and federal funds for dental students. With this liberal application of federal funds will these new schools be better than other schools? Will these new teachers be better than previous teachers? And will these new practitioners be better than their predecessors? Time will tell and we should keep a sharp ear out for the piper's

tune. Money is necessary for these projects. So is the enthusiasm, intelligence, integrity and dedication that no amount of federal funds can supply.

Expectation of the Kingdom of Heaven on Earth requires us to believe in a mutation in the human species. This has resulted in the appearance, in large numbers, of supermen who are all-knowing, all-seeing, incorruptible, and only concerned with the public good. Their sole qualification seems to be sublime faith in their own infallibility. These are the planners, and with our permission and our money they will lead us into a broad, sunny upland where there will be peace, prosperity and contentment and we will all live happily ever after. Such is the Kingdom of Heaven on Earth! In my book, such a mutation has not yet occurred, and the spectacle of this arrogant, bifurcated little biped, which is man, assuming that all Creation is his to command is premature and presumptuous.

The Commissioners reflect this attitude in their statement on page 10 about "the enormous gap between our scientific knowledge and skills on the one hand, and our organizational and financial arrangements to apply them to the needs of men on the other." This 'gap' which the Commissioners refer to as 'the paradox of our age,' is no paradox of this or any other age. It has existed in every era, and is steadily decreasing.

Here is their credo:³ "What the Commission recommends is that in Canada this gap be closed. That as a nation we now take the necessary legislative, organizational and financial decisions to make all the fruits of the health sciences available to all our residents without hindrance of any kind. All our recommendations are directed toward this objective."

Verily, the Kingdom of Heaven on Earth. Presumptuous, premature and here a little dangerous, because this attitude presupposes that somehow the forces of nature are in abeyance, in a state of complete and continuing stasis, and that all we have to do is divide up this goody so that everyone gets a share, and all will be well. This attitude should cause great rejoicing in the microbe world, and if, in the course of 'closing

this gap,' the planners destroy the initiative and ingenuity of the medical profession and the drug industry, then pestilence and plague and associated miseries could again become part of human experience. And when these utopians talk of the 'tide of rising expectations' and the 'wave of the future,' they may in reality be putting us on the road to a new Dark Age, where succeeding generations will curse the darkness and our contributing stupidity.

As to the 'feasibility' of implementation of the recommendations of the Hall Report, let this be said: An outstanding characteristic of this wonderful country of ours, at the moment, is the enormous urge to reform and pretension to grandeur on the part of every legislative body—central, provincial or even municipal. Under the circumstances anything is 'feasible' and there is no reason why this manifesto, the Hall Report, should be exempt. It is significant that not a single voice has been raised against the Hall Report in the federal Parliament; so it would seem that the bleeding hearts are in full command. Implementation of the recommendations of this report, over the objections of those most knowledgeable and concerned, will represent persecution of a minority—a hard-working, self-effacing and very valuable minority at that.

The Canadian people deserve better health care than is recommended by the Commissioners who have downgraded everything. The Canadian worker is the most productive worker in the world. Canadians individually have achieved eminence and recognition in every line of human endeavour. Canadians deserve the best. This is not the best.

It is my pious hope that no step will be taken which cannot be retraced, and that nothing will be done that cannot be undone.

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L'opinion d'un dentiste

J. M. Chamard, D.D.S., Montréal, P. Qué.

Avant d'aborder le rapport de la Commission Hall, parlons tout d'abord des progrès extraordinaires accomplis en médecine. C'est le nœud du problème, car si les médecins employaient encore des thérapeutiques telles que sangsues, fumier ou incantations au clair de lune, les services de santé ne seraient pas le ballon politique qu'ils sont aujourd'hui. Pendant son long acheminement, depuis la sorcellerie jusqu'à la pratique actuelle, la médecine a développé une technique impressionnante qui ouvre de nouveaux horizons à l'humanité. Progressivement, le mysticisme a été remplacé par le rationalisme—c'est-à-dire l'application de la raison aux problèmes humains. Les médecins ont utilisé la méthode inductive, l'étude attentive des relations de cause à effet, l'objectivité totale, pour en venir au système scientifique qui explique tout ce qui nous émerveille aujourd'hui.

Nous devons beaucoup à la profession médicale. A certaines périodes, les médecins ont rencontré l'opposition acharnée des sorciers, du clergé, de l'autorité établie, opposition qui utilisait comme armes la crainte, les superstitions, les fétiches. Mais combattus par quelques-uns, ils étaient aidés par d'autres: infirmières, pharmaciens, opticiens. Ils recevaient une assistance modeste de la profession dentaire et, surtout récemment, une aide extraordinaire de l'industrie pharmaceutique. Le résultat en a été vraiment spectaculaire. La plupart des maladies sont éliminées ou contrôlées, les techniques chirurgicales côtoient le miracle; la douleur, la souffrance sont en

grande partie disparues. Nous avons une dette énorme envers la profession médicale.

Et comment réagissons-nous devant ces bienfaits? Pas d'une façon très intelligente, je le crains. Nous sommes assaillis par un nouveau groupe de sorciers qui nous disent: "Ah! Tout cela est très bien, mais ce n'est pas assez! Il nous faut tout prendre en main et voir à ce que chacun puisse profiter de ces merveilles, sans se soucier de ci ou de ça, et toujours sans frais!" Ainsi, nous, le public, sommes quelque peu comme le chien de la fable: sur le pont, bifteck en bouche. Les sorciers nous montrent la réflexion dans l'eau. Si nous les écoutons et si nous ignorons certains principes, nous pouvons perdre ce que nous possédons déjà, les précieux avantages que la profession médicale nous a apportés.

Examinons la situation.

Tout d'abord, voyons les principes fondamentaux ou prémices philosophiques du rapport Hall. On les trouve dans deux citations de la page 6.

La première citation est tirée de l'avant-propos de la Charte de l'Organisation mondiale de la santé. Les Commissaires nous rappellent que nous avons signé la Constitution de l'O.M.S. dont il nous faut appliquer les principes. "Jouir du meilleur état de santé possible est l'un des droits fondamentaux de tout être humain sans distinction de race, de religion, de croyance politique, de situation économique ou sociale."

Il y a plusieurs années, John Locke a défini les droits naturels, fondamentaux

de l'homme comme étant des droits à la vie, à la liberté, à la propriété. Un auteur expose l'attitude de Locke en ces termes: "L'homme possède certains droits naturels antérieurs à l'établissement des organismes sociaux et politiques; la vraie fonction, le but de l'état est de reconnaître ces droits, de les préserver et de les garantir."¹

On reconnaît depuis longtemps les droits naturels à la vie, à la liberté et à la propriété. On ne craint plus d'être tué, incarcéré ou volé. A la liste, l'Organisation mondiale de la santé ajoute le droit à la santé. Il s'agit là d'un droit acquis, et si nous sommes d'accord, nous ferions bien de voir qui nous l'a mérité.

La seconde citation est contenue dans un livre écrit par Sir Arthur Newsholme en 1932. J'omets volontairement la première partie de cette citation, car je la considère vieillie et passée de date. Je cite: "Tout d'abord, la santé de chacun est un souci social; et en second lieu, par voie de conséquence, les soins médicaux pour chaque individu (le terme étant pris dans son sens le plus large) sont une condition essentielle à l'efficacité et au bonheur maximums dans une collectivité civilisée."²

Voici l'envers de la médaille.

La philosophie du rapport Hall tend à dire que puisque le gouvernement est le seul à pouvoir faire face aux responsabilités sociales, la santé et les soins médicaux sont en même temps un droit individuel et une responsabilité gouvernementale. Si nous, du public canadien, sommes d'accord, il vaudrait mieux que nous soyions déjà morts.

C'est un fait reconnu que l'autorité doit être proportionnée à la responsabilité. Par conséquent, si croyant que la santé et les soins médicaux sont notre droit, nous rejetons toute la responsabilité sur le gouvernement, celui-ci prendra toute l'autorité. Ne nous faisons pas d'illusions là-dessus. Sir Arthur Newsholme était assez intelligent et honnête pour l'admettre. Et si les Commissaires étaient allés un peu plus loin dans ce livre poussiéreux, ils auraient lu à la page 48: "Il est juste et inévitable que les octrois officiels impliquent un contrôle de la part des représentants des contribuables."²

C'est une autre façon de dire que 'celui

qui paie les musiciens choisit la musique,' ce qui est très juste. Par contre, dans les articles 5 et 6 de la Charte de santé pour les Canadiens, les Commissaires insistent pour dire qu'on n'exercera pas une telle autorité:³

Article 5. Le "libre choix" signifie le droit du malade de choisir son médecin ou son dentiste, et le droit du praticien d'accepter ou de refuser de soigner un malade, sauf en cas d'urgence ou pour des raisons d'ordre humanitaire.

Article 6. Par "Professions et institutions libres et autonomes," on entend le droit pour les membres des professions de la santé d'exercer dans le cadre de la loi, de choisir librement le lieu et le mode de leur exercice, et de régir eux-mêmes leur profession. En ce qui concerne les "institutions," cela signifie la liberté académiques des écoles de médecine, d'art dentaire et des autres écoles professionnelles; pour ce qui est des hôpitaux, cela signifie l'absence de contrôle ou de domination politiques et l'encouragement à s'administrer sur le plan local.

Ceci me semble être un attrape-nigaud que l'on ne peut pas concilier avec les principes philosophiques du rapport Hall. Il n'est pas convainquant de voir les Commissaires parcourir le pays en essayant de vendre l'idée de cet invraisemblable projet. Que veulent dire exactement les Commissaires?

Le Comité de direction de l'Association dentaire canadienne a très bien évalué les recommandations dentaires du rapport Hall. Le Comité a mis l'accent sur l'importance et l'urgence des mesures préventives dans les soins dentaires, il a abordé les différents aspects du problème que pose le personnel, il a considéré le programme de soins dentaires aux enfants ainsi que les autres recommandations. Ce travail a été accompli dans des conditions peu agréables: pressions de toutes sortes, coups d'épéon injustifiés. Après tout, les Commissaires ont eu trois ans pour préparer leur rapport, tandis que nous devons nous prononcer à brûle-pourpoint sur des sujets de grande importance pour tous les Canadiens. Vous connaissez déjà, ou vous connaîtrez sous peu la position prise par l'A.D.C. (J.A.D. Canad. 31:490, juillet 1965) à l'égard du rapport Hall. Aussi n'en parlerai-je pas.

Je voudrais toutefois attirer votre at-

tention sur une déclaration faite en page 262, déclaration intéressante pour le praticien. Au chapitre intitulé "Effectifs de la santé," on lit ceci:³ "Au Canada, l'art dentaire se pratique surtout sous le régime de l'exercice indépendant et des honoraires. De toutes les professions de la santé, c'est peut-être celle où le salariat ou la concentration en de grands organismes sont le moins marqués. Ce mode d'organisation des services s'accompagne d'un niveau généralement insuffisant de soins dentaires."

Que veulent dire exactement les Commissaires; c'est une question toujours répétée. Cette déclaration laisse supposer une relation de cause à effet et constitue une insulte injustifiée à la profession dentaire du Canada. Quand on veut évaluer une évolution, il est nécessaire de fixer au moins deux points de repère dans le temps, ce que les Commissaires n'ont pas fait. Si nous prenons la date d'aujourd'hui comme premier point de repaire et que nous fixons le second point de repère n'importe où dans les 30 dernières années, ce qui correspond à mon champ d'expérience personnelle, nous verrons que le niveau de santé dentaire s'est considérablement amélioré malgré les limitations géographiques et les mauvaises habitudes alimentaires de la population. Une façon peut-être encore meilleure d'évaluer nos réalisations serait de comparer notre niveau de santé dentaire avec celui d'autres pays où les services dentaires sont organisés de façon différente, la Russie par exemple. Ceci, encore une fois, les Commissaires ne l'ont pas fait. Jusqu'à aujourd'hui, la profession dentaire s'est elle-même imposé la responsabilité de répondre à la demande de services, et cela, elle l'a bien fait. Mais nous n'avons toujours pas répondu à la question importante: que signifie la déclaration que font les Commissaires à la page 262. S'agit-il d'une menace quelconque?

L'équivoque devient encore plus forte quand on voit comment la Commission Hall traite nos amis de l'industrie pharmaceutique. Ils ont été choisis pour la mise à mort. Je les appelle nos amis, car les anesthésiques, analgésiques et antibiotiques sont un apport considérable à la pratique dentaire. Tout tourne autour du coût; le coût des médicaments est un des

éléments de nos frais, et les frais nous concernent. (Les droits de douane sur l'outillage dentaire que l'on ne fabrique pas au Canada représentent un des éléments les plus désastreux de nos frais).

Il y aurait deux façons de réduire le coût des médicaments: (1) abolir toutes les mesures gouvernementales qui augmentent les prix: droits de douanes, taxes; (2) subventionner au besoin.

Mais ce n'est pas ce que les Commissaires proposent. Ils consacrent trois chapitres à l'industrie pharmaceutique. Les titres des chapitres attirent l'attention du lecteur, mais il n'y a pas de chapitre consacré exclusivement à la dentisterie. Dans les trois chapitres traitant des médicaments, il y a 124 notes référant au rapport de la Commission d'enquête sur les pratiques restrictives du commerce. Dans le texte, il y a 71 références à ce rapport, au Livre vert qui est un supplément du rapport, et à la Loi relative aux enquêtes sur les coalisations. Tout cela constitue un arrière-plan plutôt sinistre. En fait, le rapport de la Commission d'enquête sur les pratiques restrictives du commerce n'a été suivi d'aucune condamnation et de l'imposition d'aucune amende; ce rapport n'apporte aucune évidence de pratique restrictive. Au contraire, la commission fait sept recommandations qui pour la plupart semblent être en-dehors de leurs termes de référence. Par contre, la Commission Hall, en se servant plus ou moins des mêmes données, propose 25 recommandations et précise ses intentions à la page 41, dans une déclaration remarquable, déclaration qui est probablement l'arrêt de mort de l'industrie pharmaceutique. La voici:³ "Tout en reconnaissant que la fabrication et la vente de médicaments au Canada sont du domaine de l'entreprise privée, nous n'hésitons pas à dire que l'intérêt public est primordial. Quand nous parlons de l'accessibilité d'un grand nombre de médicaments spécifiques, c'est aux vies humaines et à la santé publique que nous songeons. Ou l'industrie verra d'elle-même à mettre ses produits sur le marché au plus bas prix possible, ou il faudra que le gouvernement introduise les organismes et les rouages nécessaires à cette fin."

L'intention des Commissaires est claire et nette. Le gouvernement s'emparerait

d'une industrie importante. C'est une menace ouverte, et elle est faite par une Commission royale! Assurément, les sorciers essaient d'usurper le rôle des chefs de tribus, lesquels sont nombreux. Si la santé, la vie de l'individu sont prétextes valables, que penser de l'industrie alimentaire? Qu'arrivera-t-il du chauffage, de la construction, de l'industrie du vêtement? Où ces messieurs ont-ils l'intention de s'arrêter?

Il y a une atmosphère d'«Alice au pays des merveilles» qui nous prépare à la déclaration qui se trouve en page 14 du rapport Hall:³ «Une nation qui, en 1962 a dépensé \$756 millions en cigarettes et en tabac, et \$973 millions en boissons alcooliques peut se payer le programme que nous recommandons, qui entraînerait une dépense supplémentaire de \$466 millions en 1971.»

C'est fabuleux! Les Commissaires ont frotté la lampe d'Aladin. Si leur raisonnement est juste, cela veut dire que, si vous avez une voiture ou une télévision, vous pouvez vous payer une maison, et si vous avez déjà tout ceci plus un enfant aux études, vous pouvez vous payer un nouveau costume et un voyage en Europe.

Les dentistes ne sont pas des économistes, alors que certains Commissaires le sont. Mon gérant de banque est un économiste et je dois dire que je suis impressionné par son sens pratique des affaires. J'hésiterais à lui faire connaître ce raisonnement du rapport Hall, parce que j'aurais peur de le rendre nerveux. Si nous appliquions ce principe à l'exercice de notre profession, comment ferions-nous pour percevoir nos honoraires. C'est essentiellement un service libre de santé que nous avons, et nous nous rendons compte de la priorité que les gens lui accordent dans le choix de leurs dépenses. Est-ce que les Commissaires projettent de changer cet ordre établi? Est-ce que cette remarquable déclaration laisse entrevoir la prohibition et l'interdiction de la cigarette? Que veulent-ils dire exactement?

En terminant, j'aimerais parler de trois attitudes répandues dans le monde des affaires au Canada. Toutes trois sont intéressantes et pertinentes à cette discussion. Ce sont le syndrome du Père Noël, la croyance au pouvoir magique des fonds

fédéraux et l'attente du Royaume céleste sur terre.

Le syndrome du Père Noël, c'est l'effort que fait le gouvernement pour nous convaincre que nous pouvons obtenir quelque chose pour rien. Ce qui est faux. Le gouvernement ne crée rien. Il ne peut donner que ce qu'il perçoit moins une perte administrative importante. Cette caractéristique d'un gouvernement, Frédéric Bastiat l'a fait remarquer: «L'état a deux mains — l'une pour recevoir et l'autre pour donner — une main dure et une main douce. L'activité de la seconde est nécessairement subordonnée à l'activité de la première. A vrai dire, l'état peut prendre et ne rien rendre. Ceci s'explique par la nature poreuse, absorbante de ces mains qui retiennent toujours une partie, et quelquefois, tout ce qu'elles touchent.»⁴

En mettant en pratique la technique de Galbraith qui consiste à proportionner les dépenses à ce que l'on croit devoir être le produit national brut dans l'avenir, il n'est pas impossible qu'en croyant obtenir quelque chose pour rien, nous ne fassions en réalité qu'endetter nos petits-enfants. Il n'y a pas de Père Noël. Tous les Canadiens le savent. Malheureusement, tous les partis politiques s'attachent à ce mode d'action pour obtenir des votes. Le socialisme s'installera donc au Canada faute d'opposition.

La croyance à la magie des fonds fédéraux est particulièrement manifeste dans les affaires dentaires. Partant de cette idée que nous avons et aurons besoin de plus de dentistes, nous brandissons la baguette magique des fonds fédéraux pour les faire apparaître. Fonds fédéraux pour fonder de nouvelles écoles dentaires, fonds fédéraux pour subventionner la formation de nouveaux professeurs, et fonds fédéraux pour les étudiants. Grâce à cette distribution libérale des fonds fédéraux, ces nouvelles écoles seront-elles meilleures que les autres? Ces nouveaux professeurs seront-ils meilleurs que les professeurs actuels? Et ces nouveaux praticiens seront-ils meilleurs que leurs prédécesseurs? Le temps nous le dira, mais il nous faut observer avec prudence. L'argent est nécessaire à ces projets, mais bien plus encore, l'enthousiasme, l'intelligence, l'intégrité, le dévouement, ce

qu'aucun fonds fédéral ne peut fournir.

L'attente du Royaume céleste sur terre demande que nous admettions l'existence d'une mutation du genre humain. Elle s'est déjà réalisée par l'apparition, en grand nombre, de surhommes qui connaissent tout, qui voient tout, qui sont incorruptibles et intéressés uniquement au bien public. Leur seule qualification semble être une foi sublime dans leur infailibilité. Ce sont eux qui planifient, et avec notre permission et notre argent, ils nous conduiront vers les terres ensoleillées où règnent la paix, la prospérité et la satisfaction, et où nous vivrons éternellement heureux. Voilà le Royaume céleste sur terre! A mon avis, une telle mutation n'est pas encore chose faite, et il me semble prématuré et présomptueux d'imaginer cet arrogant petit bipède qu'est l'homme croyant que toute la Création lui appartient.

Les Commissaires adoptent cette attitude dans leur déclaration de la page 11, lorsqu'ils parlent de "l'énorme brèche (qui existe) entre nos connaissances scientifiques et techniques, d'une part, et nos cadres institutionnels et financiers servant à les appliquer aux besoins des hommes, d'autre part." Cette brèche que les Commissaires appellent 'le paradoxe de notre siècle,' n'est en réalité ni le paradoxe d'aujourd'hui ni celui d'hier. Cette brèche a toujours existé et elle est en voie de diminuer.

Voici leur credo:³ "Ce que la Commission recommande, c'est de combler cette brèche au Canada, c'est que nous, comme nation, adoptions dès maintenant les lois nécessaires et prenions les décisions d'ordre institutionnel et financier, propres à rendre toutes les découvertes des sciences de la santé accessibles à tous les habitants du pays sans restrictions d'aucune sorte. Toutes nos recommandations visent cet objectif."

C'est en vérité, le Royaume des cieux sur terre. Présomptueux, prématuré et un peu dangereux, parce que cette attitude présuppose qu'en quelque sorte, les forces de la nature soient au repos, en état de stase complète et continue, et que tout ce que nous ayons à faire soit de partager également pour que chacun ait sa part, et que tout soit parfait. Cette attitude devrait apporter de grandes ré-

jouissances dans le monde des microbes, et si, en comblant cette brèche, nos planificateurs détruisent l'initiative et l'ingéniosité de la profession médicale et de l'industrie pharmaceutique, alors la peste et les autres misères du même genre pourront redevenir à la mode. Et quand ils parlent de la 'marée montante des espérances' et de la 'vague de l'avenir,' peut-être, en réalité, ces utopistes nous conduisent-ils vers un nouveau Moyen Age, dont les générations futures maudiront l'ignorance et la stupidité coupable.

Quant à la possibilité de mettre en pratique les recommandations du rapport Hall, disons ceci: une des remarquables caractéristiques actuelles de notre pays est l'énorme besoin de réformes et la préention à la grandeur qu'ont tous les corps législatifs — fédéraux, provinciaux et même municipaux. Dans les circonstances actuelles, tout est possible, et il n'y a aucune raison que ce manifeste, le rapport Hall, fasse exception. Il est significatif qu'aucune voix ne se soit élevée contre le rapport Hall, au Parlement fédéral; ainsi, il semble que les 'cœurs-saignants' soient au pouvoir. La mise en œuvre des recommandations de ce rapport, malgré les objections de ceux qui sont au courant et qui sont concernés, sera la persécution d'une minorité — une minorité laborieuse, humble et de grande valeur.

Le peuple du Canada mérite des soins de santé meilleurs que ceux que recommandent les Commissaires qui ont tout déprécié. Le travailleur canadien est le travailleur le plus productif du monde. Des Canadiens éminents se sont imposés dans tous les domaines. Les Canadiens méritent ce qu'il y a de mieux, et ceci n'est pas ce qu'il y a de mieux.

J'espère ardemment qu'aucune décision irréversible ne sera prise et que rien ne sera fait qu'il ne sera pas possible de défaire.

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Considérations sur le problème du personnel dentaire et sur la solution proposée par la Commission Hall

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La Commission Hall manifeste à plusieurs endroits dans son rapport, ses préoccupations à l'égard du personnel de la profession dentaire. Les citations suivantes en font foi.¹

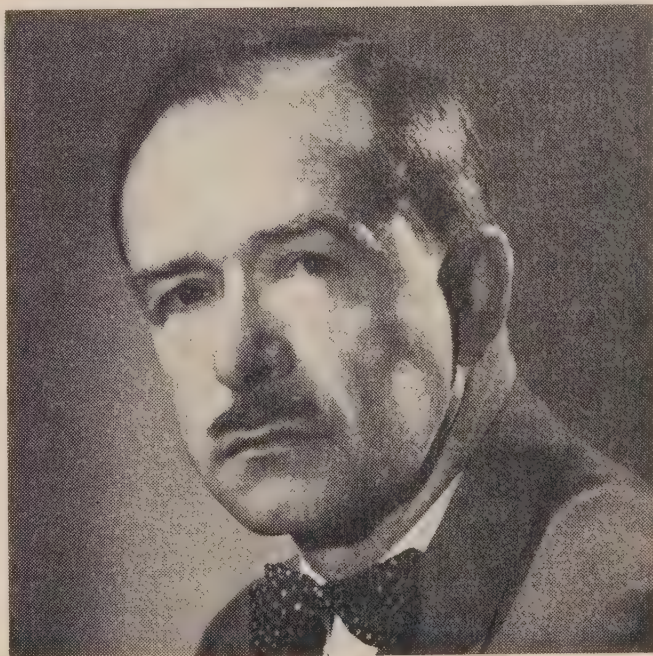
"Si l'on admet, comme nous le faisons, que les investissements dans la santé rapportent des dividendes en argent aussi bien que des dividendes en bien-être humain, il incombe alors aux pouvoirs publics de veiller à ce que le personnel des travailleurs de la santé s'accroisse à la mesure des besoins essentiels. Il faudra, dans certains secteurs, mettre en œuvre un programme d'urgence pour augmenter les installations aussi bien que pour recruter un personnel. L'art dentaire et les soins infirmiers sont des exemples notoires.

"Ce qu'il faut d'abord c'est un personnel qualifié et suffisant. Cela exige des programmes d'urgence destinés à développer les conditions favorables à l'enseignement et à la formation. Il faut les mettre en œuvre immédiatement parce qu'il faut un certain nombre d'années pour former médecins, dentistes, infirmières et autres. Nous devons être prêts à assurer des services à la population croissante du pays, population qui, croyons-nous, atteindra un chiffre de 22,600,000 en 1971, de 28,250,000 en 1981 et de 35,100,000 en 1991. Nous ne pourrions attendre d'être débordés pour agir.

"La santé dentaire peu satisfaisante de la nation, et tout particulièrement celle des enfants doivent faire l'objet de nos préoccupations aussitôt qu'un personnel pourra être formé dans le cadre d'un de ces programmes d'urgence."

Je crois qu'il faut donner crédit à la Commission Hall de s'être posée très objectivement en face du problème de la main-d'œuvre dentaire, problème à implications multiples mais pauvre en solutions. Avec une logique rigoureuse et un sens pratique remarquable, la Commission propose de grossir les rangs de la profession dentaire (dentistes et auxiliaires) selon une progression qui s'éche-

U. de M. Centrale de Photographie



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TABEAU 1 L'augmentation du personnel dentaire telle que prévue dans le plan de la Commission Hall.

Dentistes		Auxiliaires*	
Période	Développements prévus	Période	Développements prévus
1966-72	Expansion dans 6 facultés	1964-66	Etablissement de programmes de formation
1972-80	4 nouvelles facultés	1966-71	Formation de 1,000 auxiliaires par an
1980-85	1 nouvelle faculté	1971-	Formation de 1,500 auxiliaires par an
Résultats attendus			
1966-76	Le nombre des dentistes passe de 6,300 à 8,600	1966-76	Le nombre passe de 0 à 10,350
1976-86	Le nombre passe de 8,600 à 12,200	1976-86	Le nombre passe de 10,350 à 22,500

*La Commission ne considère qu'un type d'auxiliaires (les infirmières dentaires de la Nouvelle Zélande) dans son programme de personnel.

lonne sur 30 ans, mais dont l'évolution au départ est fortement accentuée. Voyons d'abord comment le plan de la Commission doit se développer. Nous offrirons ensuite une contre-proposition de manière à réconcilier les positions de principes déjà prises par la profession dentaire et les objectifs envisagés par la Commission.

LES DONNÉES DU RAPPORT ET
LES RÉSULTATS ATTENDUS

Il y a deux phases bien distinctes à l'intérieur du plan de la Commission en ce qui concerne la distribution des soins dentaires. Une première, de 1966 à 1981, pendant laquelle vont s'introduire des groupes d'enfants appartenant à deux âges différents. Ces augmentations massives ne dureront que trois ans. Après quoi, les groupes d'enfants continueront à s'ajouter au rythme d'un groupe d'âge par an. En 1981, il est prévu que les enfants de 3 à 18 ans feront tous partie de la population bénéficiant des soins dentaires offerts par le plan.

Cette première phase exige donc une multiplication rapide d'abord pour combler les vides existants, ensuite pour assurer des soins à cette clientèle qui grossit à un rythme effarant, et finalement pour ne pas mobiliser tous les dentistes dans cette entreprise.

La seconde phase qui débute en 1981 et s'engage dans un futur encore plus incertain, est marquée par l'admission des adultes aux bénéfices du plan.

Le rapport Hall propose une formule pour effectuer rapidement la savante multiplication du personnel dentaire et auxiliaire. Le tableau 1 résume les effets de son application.

Les effectifs en dentistes passeraient ainsi de 6,300 à 8,700 en 10 ans, soit une augmentation de 2,400. En 20 ans le nombre de dentistes serait pratiquement doublé. Les auxiliaires prévues augmenteraient presque géométriquement puisqu'elles atteindraient 22,500 en 1986, alors qu'elles étaient inexistantes comme telles en 1966. Car il s'agit bien ici d'un type d'auxiliaire encore inconnu en Amérique. En fait, la Commission ne considère que les infirmières dentaires de la Nouvelle Zélande comme la solution au problème du personnel auxiliaire. Le personnel tel que prévu, devrait fournir les heures de travail comme nous l'indiquons au tableau 2.

Ces valeurs représentent les heures auxquelles devront contribuer les dentistes en clientèle privée, ceux qui seront embauchés pour surveiller les auxiliaires et les auxiliaires elles-mêmes.

Retenons qu'en 1971 le tiers du temps sera fourni par les auxiliaires, en 1976 la moitié et en 1981 les deux-tiers.

TABLEAU 2 Partage entre les dentistes et les auxiliaires des heures ouvrables consacrées aux soins dentaires au cours des étapes du plan de la Commission Hall.

Année	No de dentistes	No des auxiliaires	Heures* ouvrables en millions	Proportion en (%) des heures contribuées par	
				dentistes	auxiliaires
1971	7,157	3,800	22	67	33
1976	8,770	10,350	38	46	54
1981	10,294	16,200	53	35	65
1986	12,188	22,500	70	35	65

*Pour simplifier, on a fait les calculs en supposant que chaque dentiste ou auxiliaire contribuait 2,000 heures par an.

Les fonctions des auxiliaires se centrent sur les quatre points suivants: (1) prophylaxie et polissage, (2) consultation, (3) examens, (4) traitements des caries.¹

Voilà dans les termes les plus simples, un exposé du plan Hall, dans son application quant aux traitements dentaires et aux problèmes du personnel qu'il requiert. INTERPRÉTATION ET CONTRE-PROPOSITION

Je n'ai ni le temps ni l'intention de rapporter toutes les objections qui ont surgi depuis qu'on a étudié ce rapport. En général, je concède que le plan est de réalisation difficile, mais comme membre d'une profession digne de ce nom, je me dis que dans l'intérêt du public, il faut tenter l'ultime effort surtout quand cet effort est dirigé d'abord vers les enfants. Je présume donc que nous sommes tous consentants à voir la population infantile et adolescente dans son ensemble pourvue de soins dentaires d'ici 15 ou 20 ans.

Je peux maintenant souligner quelques uns des bons points émanant des données citées. D'abord combien de dentistes aurons-nous dans les années à venir? Je répondrai: à peu près ce que nous indique le rapport de la Commission. Nous pouvons même aller un peu au-delà, car nous nous sentons optimistes. Si on en juge par le mouvement qui s'affirme en ce moment et si ce mouvement continue pendant 10 ans, on dépassera probablement les chiffres du rapport Hall. Nous ne sommes qu'en 1965 et déjà la Faculté dentaire de l'Université Western Ontario est en pleine gestation. Le gouvernement de la province de Saskatchewan s'est engagé à former une faculté dentaire. McGill progresse dans ses plans d'expansion.

L'Université de Montréal est en voie d'augmenter son rendement de 60 pour cent et Laval nous réserve des surprises qui finalement n'en surprendront pas beaucoup.

Donc au point de vue du nombre des dentistes eux-mêmes, il n'y a pas de problèmes, si l'on veut s'en tenir à une multiplication accélérée mais réaliste. Vouloir aller plus loin dans ce sens que ne le fait la Commission Hall serait téméraire ou utopique.

Malgré ces efforts, le problème de la main-d'œuvre dentaire n'est pas résolu en fonction de la tâche qui s'annonce. Les dentistes, seuls, sont incapables de l'abattre. Donc il faut se faire aider. La Commission propose les auxiliaires-type Nouvelle-Zélande. La profession dentaire, elle, se montre intransigeante à l'endroit de ces auxiliaires. Il nous reste comme autre solution d'amener l'équipe dentaire actuelle à fournir son maximum de rendement. Equipe qui comprend le dentiste, l'hygiéniste, l'assistante et le technicien, et de doter le responsable de cette équipe, le dentiste, des moyens matériels les plus évolués.

APPRÉCIATION DE LA PRODUCTIVITÉ DANS LA PROFESSION DENTAIRE

On dit souvent que ce qui importe ce n'est pas le nombre d'heures qu'on met à un travail autant que l'effort qu'on met dans ce même nombre d'heures. Dans ce cas, il faut voir à ce que les heures soient utilisées le mieux possible. En fait, le rendement est le produit de plusieurs facteurs. Si chacun des facteurs est appré-

ciablement augmenté, le rendement sera augmenté et ceci, sans que la variable 'temps' soit modifiée.

Considérons le rendement actuel de la profession dentaire et son augmentation possible à la lumière des connaissances courantes. On reconnaît qu'il y a deux facteurs principaux qui influencent le rendement personnel de chaque dentiste: la présence du personnel auxiliaire qui prend charge des œuvres serviles et qui seconde le dentiste dans ses fonctions propres, et l'utilisation de techniques et d'outillage assurant des résultats plus durables et plus faciles d'obtention.

Personnel auxiliaire.—Il ne faut pas s'en faire un complexe, mais avouons le, la profession dentaire a été lente à comprendre toute l'importance d'un corps auxiliaire bien formé, bien préparé à ses multiples fonctions. Les dentistes sont encore aujourd'hui défavorisés avec ce dont ils disposent; une assistante par dentiste (et nous devons l'entraîner nous-même), un technicien pour cinq dentistes, une hygiéniste dentaire pour plus de 35 dentistes.

(a) L'assistante.—Ceux d'entre vous qui ont su s'entourer judicieusement de personnel compétent ont augmenté leur productivité par un coefficient assez surprenant. La preuve est faite du rendement d'un dentiste qui travaille seul et d'un autre qui travaille avec deux assistantes. C'est un accroissement de 130 pour cent dans son revenu brut. L'équipe à trois—un dentiste et deux assistantes—représente donc une appréciation de la productivité par un facteur de 2.3.²

(b) Le technicien.—La profession dentaire a bien des raisons de se plaindre de n'être pas assez largement secondée par le groupe des techniciens dentaires. Il est évident que leur préparation, plus encore que leur nombre, est insuffisante. Les données nous manquent pour illustrer à quel point la participation du technicien dans l'équipe dentaire peut améliorer le rendement. Il suffit de penser combien son absence sera cruellement sentie dans une équipe particulièrement orientée dans la distribution de soins restauratifs et prothétiques.

(c) L'hygiéniste. — Au sujet des hygiénistes dentaires, je suis le premier à

déplore qu'elles ne soient pas plus nombreuses. On peut s'attendre à ce que leur nombre augmentant, plus de dentistes puissent en embaucher. Cependant, j'exprimerai ici une opinion toute personnelle. Je vois, pour nombre d'années à venir, l'hygiéniste œuvrant avec l'équipe de la santé publique, avant de la voir dans le cabinet particulier. Elle apparaît un peu comme un luxe dans un cabinet particulier de dentistes quand, à l'unité sanitaire, dans la clinique municipale et dans le groupe qui s'évertue à éduquer le public, on doit s'adresser au dentiste lui-même pour une foule de fonctions qui relèvent uniquement de la compétence de l'hygiéniste dentaire. Dès qu'elles seront assez nombreuses pour remplir la totalité des fonctions dans l'équipe d'hygiène dentaire publique, on les admettra en nombre croissant dans les cabinets et l'on se donnera la peine de réévaluer leur rôle et d'étendre leurs responsabilités. La formule unique de l'hygiéniste pour tout le Canada est à reconsidérer depuis que dans quelques provinces, on les destine à des fonctions variées. Que l'on suive de près cette évolution et qu'on en fasse un réel profit.

Moyens matériels.—Naturellement la présence d'une bonne équipe dans le cabinet du dentiste assure déjà un rendement meilleur mais l'instrumentation propre du dentiste va aussi l'influencer. Les méthodes de travail, l'emploi d'un outillage à date, l'utilisation de matériaux avec des techniques simplifiées et éprouvées ont des répercussions sérieuses sur le rendement. Au cours des 10 dernières années, par ces seuls moyens, le rendement s'est accru d'au moins 100 pour cent.

Selon McLean,³ si l'on ne tient compte que de la seule augmentation des dentistes, la population admissible aux soins dentaires en 1991 ne serait que de 25 pour cent plus grande que maintenant. Mais si l'on fait intervenir le facteur de correction relatif à l'augmentation de la productivité (environ 2.8) on reconnaît que trois fois et demie plus de personnes deviennent admissibles aux traitements entre 1961 et 1991. Cette façon de raisonner s'appuie sur l'expérience vécue entre 1931 et 1961. Dans cette hypothèse, il y aurait danger

d'un surcroît de main-d'œuvre, si les recommandations étaient suivies à la lettre. La Commission semble avoir écarté ce point de vue, de là sa décision d'opter pour une production massive d'auxiliaires aux prérogatives brusquement élargies.

UN PREMIER PLAN QUINQUENNAL

Si dans les prochaines cinq années nous insistons pour obtenir un personnel auxiliaire beaucoup plus adéquat, numériquement ajusté à la multiplication des dentistes, et si nous continuons à améliorer nos méthodes de prévention et de traitements, il y aura accroissement de la productivité.

On nous laisse prévoir qu'en 1976 le plan va requérir 38 millions d'heures ouvrables et selon les normes actuelles nous n'en couvrirons pas la moitié même avec un nombre de dentistes accru au maximum.

La profession dentaire soutient, et je lui donne raison, que si l'équipe dentaire est bien entraînée, mieux disciplinée, mieux distribuée, si la population est convenablement éduquée, si elle obtient d'abord et surtout la protection qu'on peut lui procurer par les méthodes de prévention, elle peut faire face à toutes ses responsabilités. Car il faut compter que dix années de prévention auront, déjà en 1975, donné des résultats tangibles. La prévention agissant et la productivité augmentant, l'objectif de 1970 et celui de 1975 seront atteints. Pour ce qui est de 1991 il suffira de suivre la courbe tracée depuis 25 ans et faire l'extrapolation jusqu'à la fin du XXe siècle. Que l'on se fasse un bon programme de cinq ans en cinq ans pour assurer ainsi les soins nécessaires avec le personnel qui s'impose.

Dans un premier plan quinquennal, il importe de concentrer les efforts vers les buts suivants:

1. insister sur l'expansion des facultés dentaires existantes et la formation du personnel enseignant, sans lequel la création d'écoles nouvelles est compromise;

2. établir des institutions pour former plus de personnel auxiliaire, de le former en accord avec nos besoins immédiats et

futurs, en respectant pour le moment les traditions et les politiques déjà établies. Toutefois, chaque province devra évaluer ses besoins et faire le choix de ses moyens;

3. généraliser l'emploi des hygiénistes dans la fonction publique où elles ont à jouer un rôle de premier plan particulièrement dans l'éducation du public;

4. intensifier les recherches pour améliorer l'efficacité de l'équipe dentaire et maintenir la qualité des soins à rendre;

5. établir l'indice de la santé dentaire dans toutes les régions du pays afin que l'on soit dirigé dans le choix des mesures à prendre pour éviter le gaspillage et les retards.

Je n'insiste pas sur les programmes de prévention. Leur importance est trop évidente, et leur nécessité trop bien reconnue. Je considère qu'une période de cinq ans pour améliorer les moyens avec lesquels nous sommes plus familiers suffirait pour réaliser les progrès désirés. Il faut éviter, sous prétexte d'urgence, de se lancer dans un 'crash program' qui ne peut s'avérer rien qu'un 'crash.' La tâche stimulante de s'intégrer à l'élaboration d'un plan qui va garantir des soins à ceux qui en veulent et qui en ont besoin, en respectant les standards reconnus, peut apporter satisfaction et fierté au public comme à notre profession.

On a écrit dans le rapport: "Nous savons que nombre d'organismes et de personnes se préoccupent de la qualité des soins de santé et qu'ils s'efforcent grandement de l'améliorer; nous ne sommes pas convaincus que tous les efforts aient été jusqu'ici satisfaisants."¹ Si la profession dentaire a pu tomber sous le coup de ce jugement pour ce qui est du passé, il ne faudrait pas qu'il en soit de même dans l'avenir. Le défi nous est lancé. A nous maintenant de le relever avec élégance et courtoisie, et aussi avec courage et générosité.

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Dental personnel

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The Report of the Hall Commission manifests at several points concern over the personnel of the dental profession. The following quotations substantiate this:¹

"If it is as accepted, as we accept, that the investment in health pays cash dividends as well as dividends in human well-being, then it is a public responsibility to ensure that the supply of health workers is expanded to meet essential needs. In some areas, a crash program of expansion of facilities as well as of recruiting will be required. Dentistry and nursing are outstanding examples.

"The first requirement is sufficient trained personnel. This demands crash programs to expand the educational and training facilities. These must be undertaken at once because it takes a period of years to qualify physicians, dentists, nurses, and others, and we must be ready to provide services to the expanding population of Canada which we estimate will be 22,600,000 in 1971, 28,250,000 in 1981, and 35,100,000 in 1991. We cannot wait until we are overwhelmed before acting.

"The unsatisfactory dental health of the nation and particularly of its children must be attended to as soon as personnel can be trained in one of these crash programs."

We must give credit to the Hall Commission for the very objective manner in which it has tackled the problem of dental manpower. This problem has manifold implications but few solutions. Therefore the Commission quite logically proposes to increase dental manpower (dentists and auxiliaries) over the next 30 years. This process will be accentuated at the beginning. I will first describe how the Hall Commission plan will work. Then I will offer an alternative proposal which combines policies of the profession with the objectives of the Commission.

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TABLE 1 Increase in the supply of dental person nel as projected by the Hall Commission.

Dentists		Auxiliaries*	
Period	Expected developments	Period	Expected developments
1966-72	Expansion of 6 schools	1964-66	Establishment of training programs
1972-80	4 new schools	1966-71	Train 1,000 auxiliaries annually
1980-85	1 new school	1971-	Train 1,500 auxiliaries annually
Anticipated results			
1966-76	No. of dentists increases from 6,300 to 8,600	1966-76	No. of auxiliaries increases from 0 to 10,350
1976-86	No. of dentists increases from 8,600 to 12,200	1976-86	No. of auxiliaries increases from 10,350 to 22,500

*The Commission advocates auxiliaries similar to the New Zealand dental nurse.

HALL COMMISSION PROPOSALS AND OBJECTIVES

The Hall Report envisages two distinct phases concerning the future distribution of dental care. Phase one covers the period 1966-81. Children of two separate age groups would be introduced to dental care during the first three years. Thus, all children from three to eight would be under care by 1970. Thereafter one additional age group would be added each year so that all children aged 3 - 18 would receive dental care by 1981.

This first phase will necessitate a very rapid expansion of personnel to remedy existing shortages, to provide care for a rapidly increasing group of beneficiaries, and so as not to divert every available dentist to this undertaking.

The second phase, after 1981, is con-

cerned with the future extension of coverage to adults.

The Hall Report sets out a formula for an orderly increase in the number of dentists and auxiliary personnel. Table 1 summarizes these proposals and the anticipated results. The number of dentists is expected to rise from 6,300 to 8,700 within 10 years, an increase of 2,400. In 20 years the number of dentists would be almost doubled. The Commission also contends that only auxiliaries similar to the New Zealand dental nurse would answer the domestic need for dental auxiliary personnel. Such auxiliaries do not exist in Canada at present. Accordingly, the number of auxiliaries recommended by the Commission would increase more or less geometrically from none at all in 1966 to 22,500 by 1986.

The estimated available chairside hours

TABLE 2 Breakdown of chairside hours furnished by dentists and auxiliaries at various stages of the Hall Commission plan.

Year	No. of Dentists	No. of Auxiliaries	Chairside hours '000	Percentage of total chairside time contributed by	
				Dentists	Auxiliaries
1971	7,157	3,800	22	67	33
1976	8,770	10,350	38	46	54
1981	10,294	16,200	53	35	65
1986	12,188	22,500	70	35	65

Calculations in this table are based on the assumption that each dentist and each auxiliary contributes 2,000 chairside hours per year.

of this projected personnel are shown in Table 2. This table gives a break-down in terms of dentists in private practice as well as dentists who would supervise the auxiliaries in the proposed children's dental program, and in terms of the auxiliaries themselves. These auxiliaries will contribute one-third of the available time by 1971, half by 1976, and two-thirds by 1981. The auxiliaries are to provide prophylaxis and polishing of teeth, caries control consultation, examination for dental caries, and treatment of carious lesions.¹

The foregoing remarks summarize the Hall Commission's plan with respect to dental treatment and the dental personnel required for this purpose.

INTERPRETATION AND COUNTER-PROPOSAL

I won't dwell on the various objections that have been raised since the publication of the Hall Report. I admit that it will be difficult to implement such a plan but, as a member of a profession worthy of that status, I feel obliged to exert myself to the limit in the public interest, particularly where children are concerned. I therefore assume that we agree that all children and adolescents should receive dental care 15 or 20 years from now.

Let me therefore stress some of the good features which emerge from the data previously cited. In the first place, how many dentists will we have in the years to come? The answer is approximately represented by the number indicated by the Hall Report. Perhaps we can be even somewhat more optimistic because, if we sustain the current trend for the next 10 years, we will probably exceed the figures of the Hall Report. This is only 1965; yet the University of Western Ontario has already a dental school in full development; the Saskatchewan government is committed to the establishment of a dental school; expansion plans are shaping up at McGill University; the Université de Montréal is well on the way to increasing its output of graduates by 60 per cent; and Laval University also has plans for a new dental school. Consequently, a reasonable increase in the number of dentists presents no great problem,

but anything exceeding the Commissioners' recommendations would be reckless and utopian.

Despite these efforts, our manpower will be inadequate for the task that lies ahead. Dentists alone cannot solve the problem. They need help. The Commissioners recommended help in the form of New Zealand type dental auxiliaries. The profession, on the other hand, rejects this kind of auxiliary. Therefore the only alternative is to increase the productivity of the present dental team (dentist, dental hygienist, dental assistant and dental laboratory technician) and to furnish the leader of the team with the most advanced equipment and materials.

TOWARD INCREASED PRODUCTIVITY

Productivity is even more important than the numbers of hours worked. Available chairside time must therefore be put to the best possible use. Numerous factors influence productivity. If each of these factors is appreciably augmented, productivity will likewise increase without any change in working time.

Let us consider the current productivity of the dental profession and the methods whereby it may be increased by presently available means. Two factors significantly influence the dentist's output. One is the availability of auxiliary personnel to whom he may delegate technical phases of the work and who may assist with the services that he renders. The other concerns utilization of the most up-to-date techniques and equipment to achieve more durable treatment with minimal efforts.

Auxiliary Personnel. — The profession has been slow to appreciate the full import of a well trained corps of auxiliaries. Dentists still labour under a handicap with respect to existing auxiliaries: one dental assistant per dentist (and we have to train her ourselves), one dental technician for every five dentists, and one dental hygienist for 35 or more dentists.

(a) Dental Assistants. — Dentists who employ competent assistants increase their output significantly. This is reflect-

ed by a comparison of net revenues between the dentist in solo practice and the dentist who employs two dental assistants—a difference of 130 per cent. With this three-man team (a dentist with two assistants) productivity increases by a factor of 2.3.²

(b) Dental Technicians. — The dental profession has good reason to regret the inadequate support which it receives from dental laboratory technicians. Obviously, the training of technicians is even more deficient than their number. We do not know the extent to which participation of the technician in the dental team will improve the productivity of that team; we lack the relevant facts and figures. But his absence from a dental team oriented toward restorative and prosthodontic services must undoubtedly have serious repercussions.

(c) Dental Hygienists. — I deplore the present scarcity of dental hygienists. As more and more hygienists are trained one may expect more dentists to engage them. Nevertheless, I must express a personal conviction here: I believe that the dental hygienist should be directed to public health agencies for a good many years to come before she ever becomes a significant part of private dental practice. Her presence in the private office seems somewhat of a luxury to me as long as we require dentists in health units, in city clinics and in health education teams to perform tasks which fall within the scope of the dental hygienist. Only after the requirements of the public health team have been met should she be introduced to private practice. Her role could then be reviewed and her duties extended. This should be done in a national context inasmuch as dental hygienists in several provinces already have been assigned a variety of new duties. This development bears close scrutiny so that others may benefit from this experience.

Other Factors Influencing Productivity.— The presence of a well integrated team increases the productivity of the dentist. Good equipment further enhances his output. Up-to-date work methods and equipment as well as simplification of the techniques of treatment also have a beneficial

effect on the volume of care rendered. Dental productivity has doubled over the past 10 years by these means alone.

According to McLean³ only 25 per cent more Canadians would be able to receive dental care in 1991 than now if we disregard productivity entirely. He notes, however, that the productivity of Canadian dentists increased 2.81 times between the years 1931 and 1961. If it continues to increase at the same rate during the next three decades, 3.59 times more people would be able to receive dental care by 1991. In that event, implementation of the Commission's proposals would result in a surplus of dental manpower. The Commission apparently did not consider this; hence its decision to recommend large scale production of auxiliaries with greatly expanded privileges.

A PROGRAM OF FIVE YEAR PLANS

Increased productivity becomes significant if, during the next five years, we insist in obtaining auxiliaries that are more appropriate to our needs and proportionately adjusted to the increasing number of dentists, and if we continue to improve preventive and therapeutic measures. The Commissioners have shown that by 1976 their proposed children's treatment program will require 38 million chairside hours. Dentists will supply less than half of this amount (Table 2). But we need not be alarmed.

The profession maintains that it can face all its responsibilities provided the dental team is well trained, properly disciplined, and effectively deployed, and provided a properly educated public first obtains the benefit of all available preventive measures. I agree with this view, because one must assume that 10 years of intensive application of preventive measures will yield tangible results by 1975. Given the effects of these preventive measures and of increasing productivity, we will attain the goal set for 1970 and 1975. As for 1991, we can simply repeat the pattern of the preceding 25 years and project this to the end of the twentieth century. Throughout this period we will have to develop a series of

successive well-conceived five year plans in order to make available necessary dental care and the personnel required for this purpose.

The initial five year plan should be directed to the following objectives:

1. Expansion of existing dental schools and training of additional teaching staff required for new dental schools.

2. Creation of training establishments for auxiliary personnel. Such training should be based on current and future needs and should conform to established tradition and policies for the time being. Each province must nevertheless determine its own needs and act accordingly.

3. Stepped-up employment of dental hygienists in public health where they have a role of prime importance, particularly with respect to public education.

4. Intensified research aimed at further improvement of dental equipment and maintenance of the quality of dental care.

5. Establishment of a nation-wide dental health index for guidance in the selection of appropriate dental health measures and to avoid wasted effort or other setbacks.

I need not dwell on the significance of preventive programs. Their importance is well known and their necessity is self-evident. I would repeat, however, that a five year period, in which to perfect the means and methods that are familiar

to us, would suffice to attain the desired goals. We must not be led, under the pretext of urgency, into a "crash program" which could have catastrophic results. The challenge of joining in the development of a plan which assures treatment to those who require and seek it, while respecting established standards of care, can be a source of pride and satisfaction to the people of Canada as well as to our profession.

The Hall Report states: "We are aware that many agencies and many people are concerned with the quality of health care and are striving mightily to improve it; we are not convinced that all their efforts are yet adequate."¹ This judgement may have been applicable to the past record of the dental profession, but we must not permit it to identify us in the future. We have been handed a challenge. Now it is up to us to accept this challenge gracefully and courteously, courageously and unselfishly.

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To know one's limitations is a mark of wisdom. To rest content with them points the road to failure.



Gaby

L'aspect social

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L'idéal, pour certains, serait que chaque malade puisse être soigné chez lui, dans sa maison, enveloppé des attentions professionnelles et paternelles du médecin familial et de l'affection de la parenté. En cas de décès, on fuira ces salons mortuaires commercialisés où les morts sont exhibés comme des spécimens de musée de cire afin de permettre au disparu de passer ses dernières heures dans ce qui fut son foyer.

Quant à moi, je préfère la salle d'opération à la table de la cuisine et la réglementation des maisons mortuaires aux corvées qu'imposent à la famille les visites 'au mort exposé chez lui.'

Il nous faut, une fois pour toutes, accepter de vivre au XXe siècle et oublier le XIXe. Cela m'ennuie d'entendre parler

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du 'bon vieux temps' lorsqu'on lui accorde une valeur exemplaire. Vous vous souvenez de ce bon vieux temps lorsque l'on gelait, l'hiver, dans les maisons; lorsque le monde finissait aux limites du petit patelin; lorsque l'ignorance était à peu près générale et chronique; lorsque la moyenne d'âge atteignait à peine 50 ans; lorsque la mortalité infantile étouffait les jeunes vies par dizaines de milliers; lorsque les épidémies étaient des catastrophes nationales; lorsque le beurre se vendait, il est vrai, 20 cents la livre, mais lorsque les ouvriers gagnaient 15 cents l'heure et travaillaient 65 heures par semaine.

INTERDÉPENDANCE ET LIBERTÉ

Comme je le mentionnais il y a un instant, la spécialisation, le morcellement des métiers et des professions, afin d'atteindre à une plus grande productivité ou à une meilleure qualité des services, a produit une telle interdépendance entre les diverses activités professionnelles de chacun, que l'on ne peut littéralement plus se passer les uns des autres et que tout blocage risque de paralyser entièrement la machine. L'intérêt général exige que chaque rouage fonctionne bien. C'est ce qui a amené l'Etat à s'immiscer dans plusieurs domaines où il n'avait pas l'habitude de s'ingérer.

Il est certain qu'une telle situation limite les libertés individuelles, mais c'est au bénéfice d'une plus grande liberté de la collectivité.

Le droit à la vie d'un malade est plus important et prioritaire que la liberté du médecin de choisir entre des moyens dont certains sont efficaces et éprouvés, et d'autres aléatoires.

BIEN COMMUN ET RESPONSABILITÉS

Je ne veux me faire ici le défenseur d'aucune idéologie. Je ne suis pas de ces fanatiques qui croient à la magie des sociétés d'Etat ni de ces toqués fermement convaincus que toute entreprise publique est vouée à l'inefficacité et à l'échec. Dans les deux catégories je connais de bonnes et de mauvaises expériences. Je suis favorable aux institutions qui remplissent bien leur rôle, qu'elles soient privées ou publiques.

Pour moi, la société parfaite est celle qui procure le maximum de biens à ses membres (matériels, culturels et spirituels) en leur laissant le maximum de liberté.

Dans le domaine économique, je favoriserais sans restriction l'entreprise privée, si elle réalisait la croissance économique optimum, une distribution équitable des richesses et le plein emploi. Mais, si l'entreprise privée abuse de sa liberté pour créer des monopoles et exploiter le public; si, dans ses investissements, elle

SOCIÉTÉ MODERNE

Nous sommes dans une société moderne à haut standard de vie qui met à la disposition des citoyens une foule de biens et de services qui étaient inconnus autrefois. Les techniques qui ont permis cet accroissement considérable des richesses ont créé une interdépendance étroite entre les individus, les groupes et les sociétés.

Lorsque l'on s'éclairait à la lampe à l'huile, on ne craignait pas les grèves de l'électricité. Personnellement, et je ne crois pas être le seul, j'aime mieux courir le risque de la grève plutôt que de retourner à la lumière blafarde et vacillante du fanal.

Les industries, comme les professions, se sont spécialisées et se sont organisées pour répondre à la demande accrue des grandes concentrations urbaines. Il est vrai que la haute productivité s'est souvent réalisée au détriment de l'artisanat et d'une certaine poésie du travail. Il n'y a plus rien de commun entre l'ébéniste d'autrefois et la grande manufacture de meubles automatisée. La société moderne avait à choisir entre l'ameublement de style Louis XV et la possibilité de répondre aux besoins de centaines de familles. Elle a choisi cette dernière option de l'alternative. Mais on a tellement amélioré les techniques de production que l'on peut facilement satisfaire aujourd'hui les deux ordres de besoins.

n'a aucun souci de l'équilibre économique; si elle ne s'intéresse qu'à ses profits et nullement aux conséquences sociales de ses actes, qu'elle ne s'étonne pas que le public, par le truchement de l'Etat, vienne lui imposer des restrictions et lui faire concurrence. Les entreprises existent pour les hommes et non les hommes pour les entreprises.

Ce qui est vrai des entreprises industrielles l'est également des professions. En retour de certains privilèges, les professions se sont engagées à rendre certains services à la communauté. Si ces services ne sont pas rendus ou sont mal rendus, il ne faut pas s'étonner que le gardien du bien commun, sous la pression populaire, mette son nez dans la sauce.

LE RAPPORT HALL

Le rapport Hall a dressé un bilan alarmant de l'état de santé de la population canadienne. La situation est particulièrement grave dans le domaine dentaire. Nous sommes à court de dentistes; la plus grande partie de la population n'a pas recours à vos services, messieurs, même si elle en a un pressant besoin. Les prix sont élevés et souvent prohibitifs. D'un autre côté, rien n'indique qu'il y ait exploitation de la part des dentistes. De vastes régions ne sont pas desservies alors que d'autres sont apparemment choyées. Nos facultés dentaires ne répondent pas aux exigences de la société. Nos hôpitaux, d'une façon générale, n'offrent pas les disponibilités indispensables aux traitements dentaires. Le coût des études professionnelles est trop élevé et constitue un obstacle au recrutement.

Pendant ce temps, des millions de Canadiens ont des dents cariées dans la bouche ou d'autres maladies et infirmités qui relèvent de votre compétence. Le problème a atteint une telle dimension que les plus optimistes n'en entrevoient pas la solution avant plusieurs décennies.

Le régime sous lequel nous avons vécu n'a donc pas produit les résultats auxquels nous sommes en droit de nous attendre. Je ne ferai pas de procès pour départager les responsabilités, mais il

saute aux yeux que le régime doit changer. Il est inutile de partir en croisade au nom de la liberté individuelle ou des dogmes de l'entreprise privée. Il faut des solutions et ça presse. Tant mieux si ces solutions tiennent compte des valeurs auxquelles vous tenez.

Le rapport Hall formule plusieurs recommandations. Techniquement, ou professionnellement, je ne suis pas en mesure de les juger. Mais la réponse au rapport ne peut être un rejet pur et simple en faveur du statu quo. La profession dentaire, si elle n'est pas d'accord en ce qui concerne certaines solutions proposées, doit en soumettre d'autres qui soient susceptibles de réaliser les objectifs de santé qu'une société à haut standard de vie doit atteindre.

Ces objectifs sont bien définis dans le rapport Hall au chapitre intitulé: "Charte de santé des Canadiens."¹ Le Canada doit se doter, le plus tôt possible, d'une assurance-santé "universelle" et "complète." Ces deux mots ont ici le sens qui leur est donné dans le rapport:

Universel: signifie que des services de santé convenables seront accessibles à tous les Canadiens, où qu'ils habitent, quelle que soit leur situation financière, dans le cadre des limites imposées par les facteurs géographiques.

Complet: comprend tous les services de santé, de prévention, de diagnostic, de traitement et de réhabilitation que les sciences médicales et autres de notre époque peuvent fournir.

PRÉJUGÉS ET MAUVAIS ARGUMENTS

Parfois on sert mal une cause en utilisant tous les arguments qui nous tombent sous la main pour la défendre. Voici quelques exemples:

Le salariat.—Certains professionnels ont la hantise du salariat comme s'il s'agissait de la pire calamité inventée par les hommes. Il ne faudrait pas oublier qu'il y a au delà de 80 pour cent de la population canadienne qui vit sous ce régime. Ce 80 pour cent comprend un nombre considérable d'individus qui se dévouent pour leurs concitoyens sans limites

d'heures de travail, tout comme les professionnels. A l'intérieur de ce groupe, il est de notoriété publique que le régime du salariat n'a pas été incompatible avec la recherche scientifique. Il ne faudrait pas se comporter comme si le mode de rémunération était la principale motivation des membres des professions libérales. C'est le service et la science qui doivent déterminer l'activité professionnelle, et non le revenu bien que je sois entièrement d'accord pour que ce revenu soit suffisant et tienne compte de la valeur des services rendus. Einstein était salarié d'une université américaine!

Les auxiliaires.—Le rapport Hall suggère la formation rapide d'auxiliaires afin de suppléer au manque de dentistes au Canada. On objecte souvent qu'il peut en résulter une certaine dépréciation des services dentaires. Bien que rien ne soit prouvé dans ce domaine, il ne faut pas oublier que notre société aura à choisir entre ce risque bien calculé et le besoin considérable à satisfaire. Vaut-il mieux être bien certain que le petit Richard aura des soins dentaires parfaits, ou faire en sorte que 100 bonshommes de nos écoles publiques bénéficient d'un minimum de santé dentaire? Le médecin sur

le champ de bataille n'a pas toujours le temps d'utiliser toutes les techniques que la science médicale met à sa disposition. Il doit faire vite et sauver le plus de vies possible.

La santé dentaire de la population canadienne présente des problèmes à grandes dimensions et d'un caractère urgent. Les gens attendent des solutions et non des plaintes et des atermoiements. Il ne faudrait pas que certains dentistes se comportent comme quelques-uns de leurs clients, c'est-à-dire commencer à crier avant qu'on les ait touchés.

Je suis convaincu que la population canadienne ne demande pas l'étatisation de la profession de dentiste. Elle demande simplement que l'on réponde adéquatement à ses besoins. Si la profession a des solutions qui peuvent concilier tous les intérêts, tant mieux. Sinon, que l'on ne se berce pas d'illusions, tôt ou tard le peuple trouvera le moyen d'obtenir les services qu'il requiert.

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L'Association dentaire canadienne, au nombre des services qu'elle rend à ses membres, patronise des plans garantis d'assurance-vie et de pension, un plan d'épargne-retraite, un plan complet d'assurance-santé couvrant les frais hospitaliers, médicaux et chirurgicaux, un plan d'accident-maladie et un plan pour les frais fixes du cabinet. On peut obtenir des renseignements spécifiques sur ces plans en écrivant aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

Some people believe it would be ideal if every sick person were cared for at home, there to receive the professional and paternal ministrations of the family physician while also enjoying the warmth and affection of the family circle. And when the end draws nigh, these people would eschew the commercial funeral parlour where the dead are exhibited like so many specimens in a wax museum. Instead, the deceased would spend his final hours within the confines of his erstwhile earthly home.

As for myself, I prefer the operating room to the kitchen table just as I prefer the impersonal character of the funeral parlour to the spectacle of a stream of sympathizers come to pay their last respects to the 'deceased resting at home,' a spectacle that causes untold distress to his surviving relatives.

We must once and for all accept the fact that we live in the twentieth century, not in the nineteenth. I find it tiresome when people harp about 'the good old days' as though a bygone era possessed something of exceptional value. Surely you remember those good old days when we shivered in our houses during the winter; when the world ended at the edge of a tiny hamlet; when ignorance was generalized and endemic; when life expectancy scarcely attained 50 years; when infant mortality snuffed out the lives of tens of thousands; when epidemics were national disasters; when butter was sold, to be sure, for 20 cents a pound, yet workers were paid 15 cents an hour and worked 65 hours a week.

MODERN SOCIETY

We live in a modern society with a high standard of living. Our citizens have ac-

A Social Appraisal

Jean Marchand, Ph.D.,*

Quebec City, P. Quebec

cess to a range of services that were unknown in former days. The techniques that have led to the accumulation of this wealth have also created greater interdependence between individuals, groups and societies.

The man who kindled an oil lamp did not anticipate an electrical workers' strike. Personally, I much prefer to run the risk of such a strike than to return to the pallid flickering light of the kerosene lamp, and I am not alone in this belief.

Industries, like the professions, have had to specialize and organize themselves to meet the growing demands of urban populations. It is true that mass production is often achieved at the expense of fine craftsmanship, and that the automated manufacture of furniture differs vastly from the craft of the cabinet maker of a bygone age. When modern society had to make its choice between Louis XV period furniture for the privileged few or the means of meeting the needs of hundreds of families, it chose the latter alternative. But our production methods have witnessed such tremendous improvements that nowadays we can easily satisfy both requirements at one and the same time.

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INTERDEPENDENCE AND FREEDOM

When specialization and fragmentation of the crafts and professions, for purposes of improving productivity or quality of services, result in such major interdependence, there comes a point when one can no longer separate the one from the other and when any obstruction could virtually paralyse the entire machinery. The public interest requires that each cog functions properly. This has led to state intervention in certain fields of activity where the state would never have meddled in another era. Although this trend may have somewhat impaired individual freedom, it has been to the advantage of the group as a whole.

A patient's right to life is more important and takes precedence over the physician's freedom to choose between treatment methods, some of which are effective and proven while others may be speculative.

THE COMMONWEALTH AND RESPONSIBILITY

I do not wish, in this context, to become the partisan of any particular ideology. I subscribe neither to the infallible magic of state-regulated societies nor to the blind conviction that every public enterprise reeks of inefficiency and must therefore grind to a halt through sheer inertia. I know both good and bad examples of public and private enterprise. I simply favour those agencies which fulfil their expected role — be they private or public.

For me, the perfect society is one which confers the greatest material, cultural and spiritual benefits on its members while retaining a maximum of individual freedom.

In the economic sphere, I would favour private enterprise if this will achieve optimum economic growth, equitable distribution of goods and services, and full employment. But if private enterprise abuses its privileges to create monopolies and to exploit the public, if its investment practices disregard the principle of a balanced economy, if its desire for profits eclipses any concern for the

social consequences of its actions, we should not be surprised if the people impose restrictions and develop alternative competitive mechanisms through the medium of the state. Such undertakings are for the benefit of man. Man does not exist for the benefit of the enterprise.

That which applies to industry holds equally for the professions. In return for certain privileges the professions have undertaken to render certain services to the community. If these services are not forthcoming or if they are poorly performed, we should not be surprised if, under the impact of popular pressure, the custodian of the commonwealth takes a hand.

THE HALL REPORT

The Hall Report has taken stock of the alarming state of health of the Canadian population. The situation is particularly grave with respect to dental health. We are short of dentists. The greater part of our population does not receive your services, gentlemen, even in cases of pressing need. Fees are high and often prohibitive. On the other hand, there is nothing to indicate exploitation of this situation on the part of dentists. Substantial areas of the country lack dental services whereas other areas are pampered. Our dental schools are not meeting the requirements of society. Our hospitals generally do not provide essential facilities for dental care. The cost of professional training is excessive and hinders recruitment.

Meanwhile, millions of Canadians are afflicted with carious teeth and other oral illnesses and deformities that fall within your area of competence. The problem is so vast that even the most optimistic observer cannot visualize a solution for several decades.

At any rate, the existing order has failed to produce the results that we have had a right to expect. I do not intend to blame any one for this, but it is plain that this state of affairs cannot be permitted to continue. There is no point in crusading for individual freedom or private enterprise. We require solutions—and

quickly. So much the better if these solutions uphold the principles that you value.

The Hall Report contains several recommendations. It is not for me to judge their merits from a technical or professional standpoint. But you cannot simply reject this report and cling to the status quo. If the dental profession disagrees with some of the proposed solutions, it is up to the profession to submit alternatives capable of attaining the health objectives which should characterize any society with a high standard of living.

These objectives are clearly defined by the Hall Report in the chapter entitled, "Health Charter for Canadians."¹ According to the Commissioners Canada should develop as quickly as possible a system of comprehensive universal health insurance. They apply the following meaning to the words universal and comprehensive:

"Universal" means that adequate health services shall be available to all Canadians wherever they reside and whatever their financial resources may be, within the limitations imposed by geographic factors.

"Comprehensive" includes all health services, preventive, diagnostic, curative, and rehabilitative, that modern medical and other sciences can provide.

PRESUMPTIONS AND FAULTY ARGUMENTS

We sometimes render disservice to a cause by employing any and every available argument to sustain that cause. For example some professionals are obsessed by the spectre of salaried employment as if this were the worst calamity to beset man. But we must not forget that more than 80 per cent of the Canadian people derive their livelihood in this manner. Among these 80 per cent are a very considerable number of people who, like members of the professions, serve their fellow citizens without regard for fixed hours of work. Furthermore, it is common knowledge that salaried employment is not incompatible with scientific research.

It is also wrong to assume that the prime motivating factor of the profes-

sional man is the manner of his remuneration. Service and science, not remuneration alone, must ultimately determine professional activity. Nevertheless, I am fully in accord with the need for adequate remuneration and I am quite aware of the value of the services rendered. It is also worth remembering that Einstein was also a salaried employee of an American university!

The Hall Report also recommends the rapid training of dental auxiliaries to compensate for the shortage of dentists. Many object to this proposal, claiming that it will lead to deterioration in the standard of dental care. Although we have no experience in this area, we have to face up to the issue between taking this well calculated risk and the considerable need that exists. Is it really preferable that little Johnny receive the best possible dental care or should we see to it that a hundred school children attain at least a minimum standard of dental health? The physician on the battlefield does not always have enough time to employ all the scientific techniques at his disposal. He must act quickly in order to save as many lives as possible.

CONCLUSION

The dental health of Canadians constitutes a major problem as well as an urgent one. The people expect solutions, not grumbling and procrastination. It would be unwise to react like some dental patients who cry before they are even touched.

I am convinced that the people of Canada do not seek state control of the dental profession. They simply desire adequate services to meet their needs. If the profession has the means to fulfil these expectations, so much the better. If not, let there be no illusion on this score; sooner or later the people will develop the means whereby they can attain the services which they require.

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Surgical correction of mandibul

Methods and results achieved in the treatment of 150 patients with mandibular prognathism are described. The four techniques available for the correction of this deformity are subcondylar osteotomy, oblique sliding osteotomy of the condyle and ramus, horizontal osteotomy of the ramus, and ostectomy through the body of the mandible performed in two stages. Factors governing the selection of the appropriate technique are outlined. The importance of postoperative immobilization is also stressed.

Nous décrivons les méthodes de traitement et les résultats obtenus chez 150 patients souffrant de prognathie mandibulaire. Les quatre techniques à employer pour la correction de cette difformité sont l'ostéotomie subcondyloire, l'ostéotomie oblique du condyle et de la branche montante mandibulaire, l'ostéotomie horizontale de la branche montante mandibulaire et l'ostectomie à travers le centre du mandibule exécutée en deux phases. Les conditions contrôlant la sélection d'une technique appropriée au cas sont aussi esquissées. On accentue l'importance de l'immobilisation post-opératoire du mandibule.

Mandibular prognathism may cause various physical and psychological disturbances. Patients commonly complain of their inability to masticate properly, which consequently results in decreased nutritional intake. Their speech may be adversely affected and slurred. Cosmetic considerations are uppermost in the minds of most patients. There is no doubt that prognathism may be a great social handicap, causing psychic suffering with the possibility of precipitating more serious mental disorders.¹⁻⁴

The actual rate of occurrence of mandibular prognathism is unknown. Clinical impressions lead us to believe that this condition occurs in about 0.5 per cent of the population. This suggests that there may be 7,500 individuals with varying degrees of prognathism in a city like Toronto.

In this article we review the various types of prognathism and their possible aetiology. We also discuss some of the surgical corrective procedures used by the members of the Department of Oral Surgery, The Doctors Hospital, Toronto.

TYPES OF PROGNATHISM

It is most important to ascertain whether the prognathism is developmental and static. Accordingly, a complete pre-operative history is compiled, skull and jaw radiographs are obtained, and a careful physical examination made. Treatment to correct the patient's physical status is instituted pre-operatively when indicated.

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Prognathism

True Mandibular Prognathism is the commonest type of deformity which we encounter. It is associated with mesiocclusion (Class III) and reversed vertical overbite. This prognathism is produced by increased activity in the condylar growth centre. The aetiology of this is unknown and controversial. Many claim that it is hereditary; others believe it may be glandular in origin (pituitary dysfunction: acromegaly, gigantism). Indeed, endocrine disturbances, such as those producing acromegaly, must be ruled out before surgical correction of the accompanying deformity is attempted.^{2,4}

Anterior open bite often complicates this type of prognathism. The angle of the jaw is more obtuse than normal, and generally in proportion to the amount of mandibular prognathism or horizontal overbite. Because of this, the ascending ramus may be close to the maxillary tuberosity, and the last maxillary molar may irritate the mucosa of the mandible.²

False Prognathism, where the maxilla is actually under-developed and retrusive, is another type of jaw deformity some-

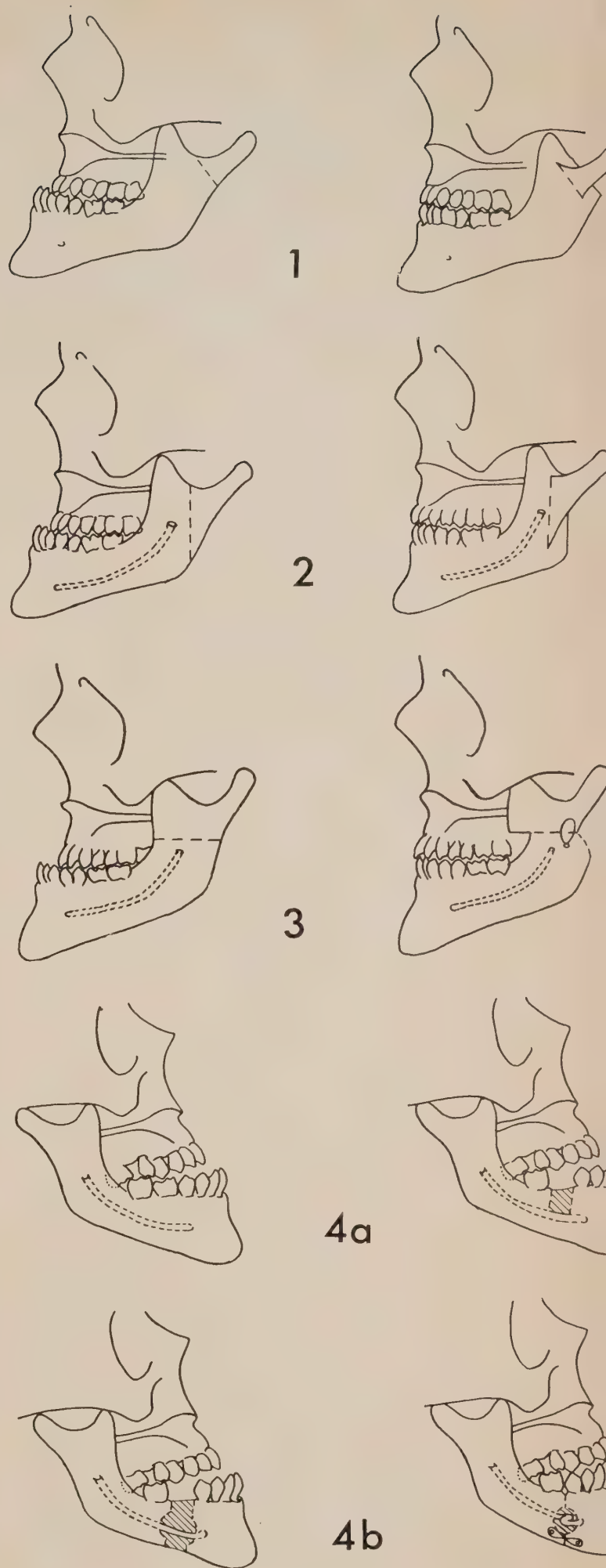


FIGURE 1 Subcondylar osteotomy.

FIGURE 2 Oblique osteotomy of the ramus.

FIGURE 3 Horizontal osteotomy of the ramus.

FIGURE 4 Body of the mandible osteotomy.

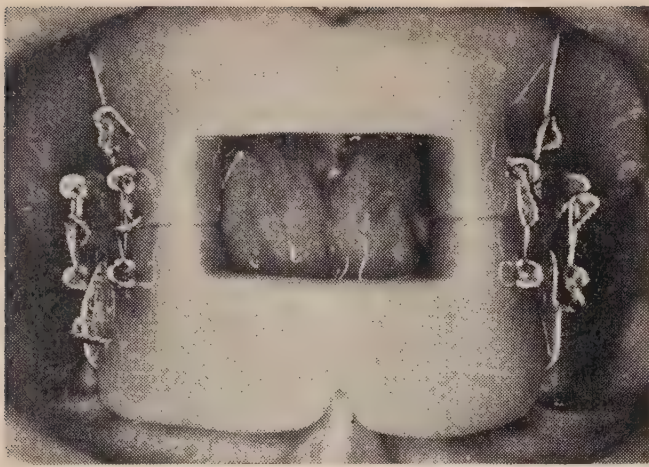


FIGURE 5 Notched acrylic plates immobilized by circumferential wiring to preserve occlusal relationship.

times encountered. The result is a saucer-like face since the middle face is pushed in and set back.

Along with the resulting mesiocclusion (Class III) there is reversed incisor overbite and greatly diminished space between the tuberosity and the ascending ramus. In some cases the maxilla may be small enough to produce telescoping, and may be completely enclosed within the mandible.²

These defects are caused by diseases that affect closure of the cranial sutures of the head or development and ossification of the cartilagenous skeleton, such as achondroplasia, oxycephaly, cleido-cranial dysostosis, and rickets.²

Apertognathia or Open Bite is caused by a number of factors and is often associated with prognathism. The two types of open bite most often seen are slanting open bite and angulated anterior open bite. In slanting open bite only the last molars occlude and all other teeth fail to come in contact.² This can occur in improperly reduced horizontal fractures of the maxilla. It results from muscle pull in a backward and downward direction.

Vertical underdevelopment of the ascending ramus can also be a cause of apertognathic prognathism. Such underdevelopment occurs when activity in the condylar growth centres is arrested or diminished because of vitamin deficiencies, arthritis, trauma or ankylosis.^{1,2}

In angulated anterior open bite the

molars and sometimes the bicusps are in contact, but there is no occlusal contact in the cuspid and incisor regions. This kind of open bite may be caused by rickets, finger sucking and tongue thrusting, or by improper reduction of bilateral mandibular fractures.

The basic aetiological factors of mandibular prognathism then are disease, trauma, atavism, and hyperactivity of the growth centre in the condyle. The two latter factors predominate. All excessive prognathic development appears to occur somewhere in the vertical ramus.²

We therefore reiterate that, prior to surgical correction, one must establish that the prognathism is static, and that it is not due to endocrine disturbance. One must also consider tumours and ordinary hypertrophy of the condyle in the differential diagnosis.

PRE-OPERATIVE CONSIDERATIONS

Surgical treatment is not attempted until maturity is reached and maximum skeletal growth is attained. The general health of the patient is also of prime importance from the standpoint of anaesthesia and prolonged operating time. We have now reduced the operating time to approximately two hours. A careful pre-operative medical survey is made and any corrective measures are instituted pre-operatively. Bone diseases which might interfere with healing are contraindications for the operation. A complete dental radiographic survey comprising intra-oral and extra-oral films is essential. Study models to permit exact measurements and analysis of occlusal discrepancies are also advantageous. There may be indications for pre-operative spot grinding or occasional extraction of a displaced and/or interfering tooth.

In edentulous patients we find it necessary to utilize a prosthesis to achieve immobilization for a good functional and aesthetic result. This is exemplified in Figure 5 where notched acrylic plates immobilized by circumferential wiring to the mandible and maxilla maintain good occlusal and jaw relationships.

Some patients also require orthodontic therapy. Crossbite, bucco- and linguoversion, and so forth must be treated to give the patient the best occlusal arch alignment before commencing surgical treatment.

OPERATIVE PROCEDURES

The operative procedures which we have found most useful are the following:

1. Subcondylar osteotomy or high condylotomy, which we do only by direct vision, is most useful in cases of moderate prognathism. The mandibular arch is preserved and the tuberosity-ramus relationship is improved (Figures 1, 8, 10, 11 and 12).

2. Oblique osteotomy of the mandibular ramus (Figures 2 and 9). The bone cut is made from the sigmoid notch to a point as close as possible to the gonial angle. The cut is kept posterior to the mandibular foramen. This procedure, too, we do only under direct vision. Indeed, we never employ a blind technique. In our opinion the disadvantages of a blind procedure far outweigh any advantages that might be gained. Oblique osteotomy of the ramus permits us to convert a very obtuse gonial angle to one that is more acute.

3. Horizontal osteotomy (Figures 3 and 7) of the ramus is performed where the prognathism is very marked, the gonial angles are not markedly obtuse and the occlusal planes of the upper and lower teeth are reasonably parallel. This procedure does not correct the tuberosity ramus relation.

4. Body of the mandible ostectomy (Figures 4, 6 and 13) is performed for severe prognathism, especially when the body of the mandible is greatly elongated, teeth are missing or an anterior open bite exists. This is a two stage procedure. The first stage, done in the clinic and under local anaesthesia and sedation, involves the removal of a block of bone from the mandible anywhere between the first bicuspid and second molar area, but generally not including the first bicuspid. This tooth is excluded because it is here that the mandible begins to curve.

Ostectomy in the first bicuspid area makes apposition of the bone fragments difficult and entails the risk of telescoping the anterior section within the posterior fragment. The second stage, performed two weeks later, is an in-hospital operating room procedure. The mandibular bone is exposed through an extra-oral submandibular approach. The bony cuts made during the first stage are located and extended to the inferior border of the mandible. Special care is taken to avoid cutting the inferior dental nerve. This precaution diminishes the possibility of permanent postoperative paraesthesia, although it is possible for a severed nerve to regenerate, especially if the direction of the neural fibres is not significantly altered. The canal at each end of the cut fragments is then enlarged with a round bur in order to accommodate the excess bundle of neurovascular tissue.

In oblique and subcondylar osteotomy transosseous wiring is usually unnecessary since the distal segment of the ramus is held firmly against the lateral face of the anterior portion of the ramus by the pull of the external pterygoid muscle, by the limitations of the surgical space created during the procedure and by a firm adaptation of the masseter muscle during closure of the surgical field.¹ Transosseous wiring of the fragments is used with ramus horizontal osteotomy and body ostectomy (Figures 3 and 4). This provides firm fixation of the new alignment of the bony segments, and thus ensures good bony union.

HOSPITAL ROUTINE AND OPERATING TECHNIQUE

The patient is admitted to hospital the day before the operation or earlier if extensive medical investigation is required. A complete routine medical survey is performed for final evaluation prior to the operation. Risdon arches are then applied to the maxilla and mandible. This is done in the outpatient clinic, under local anaesthesia and intravenous sedation, using 26 gauge stainless steel wire.

The patient is pre-medicated with



FIGURE 6 Two-stage body of mandible osteotomy. A, This 20 year old patient had never occluded with her anterior teeth. She has apertognathia (slanting open bite) along with severe prognathism. B and C, Pre-operative full-face and profile views. Since prognathism and open bite were due to excessive growth in the body of the mandible a two-stage body osteotomy was done. D, Postoperative radiograph showing figure eight wiring. E, F and G, Postoperative full-face, profile and intra-oral views show results seven weeks after operation. Note healing scar (6F), Risdon arches and new occlusal position.

atropine and a suitable hypnotic or narcotic on the morning of the operation. Sodium thiopental and succinylcholine are administered intravenously to induce anaesthesia and to facilitate naso-endotracheal intubation. The agents used primarily for maintenance of anaesthesia are nitrous oxide, oxygen and trichloroethylene. The incisions for the extra-oral approach are made approximately 4 cm. in length and 1-2 cm. below and around the angle of the mandible in an anatomical line (Langer's lines). For mandibular

osteotomy the incision is made more anteriorly to correspond to the area where the bone will be sectioned. Lidocaine 2 per cent with adrenaline 1:50,000 is injected at the site of the incision to obtain haemostasis. (Adrenaline is used subject to the anaesthetist's approval. Some anaesthetists permit its use in conjunction with trichloroethylene. But adrenaline is never used in conjunction with halothane.) The dissection is carried down through skin, subcutaneous fascia, muscle and periosteum until the bone is exposed.

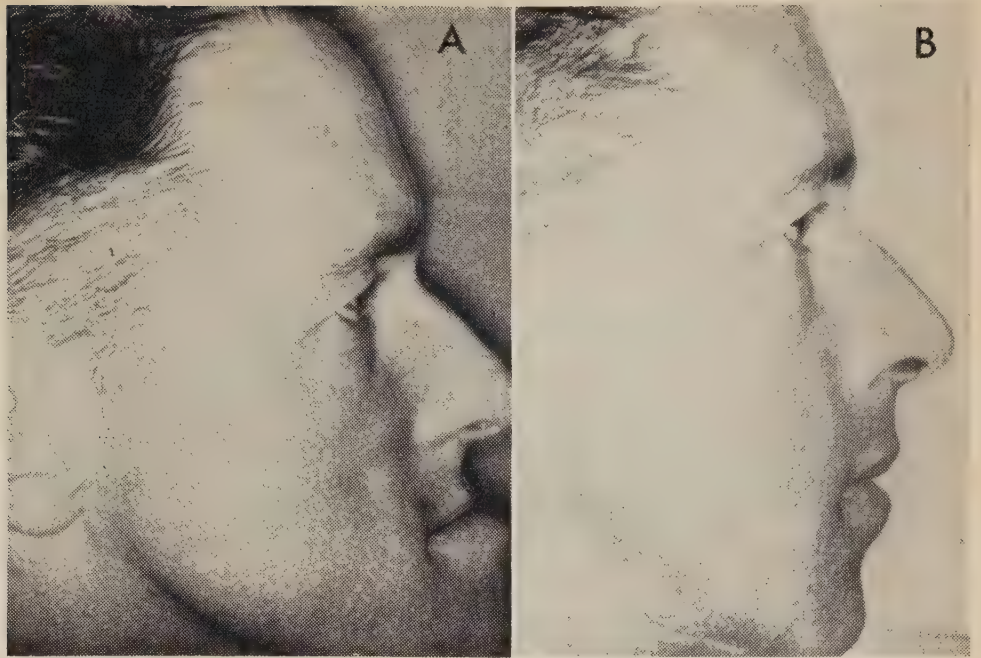


FIGURE 7 Horizontal osteotomy of the ramus in a 29 year old male. A, Pre-operative profile. B, Postoperative profile three months after operation.

Any vessels (anterior facial vein, external maxillary artery, and so forth) which may be encountered are clamped, cut and ligated. Special care is taken to identify and retract the mandibular and/or cervical branches of the facial nerve.

When bone is encountered, the attachments of the masseter and internal pterygoid muscles are severed and retracted along with the overlying fascia. The bone cut is then made with a 703

cross cut bur, commencing from the sigmoid notch. When the bone has been severed, the lateral surface of the mandibular fragment is decorticated at the place where it will contact the overlapping fragment. This promotes more rapid healing. The wounds are then covered with sterile saline sponges and sterile towels. Next, we enter the oral cavity. Here the teeth are approximated into optimal occlusion and this relationship is maintained with two or three intermaxil-



FIGURE 8 Condylotomy. A, Pre-operative full-face view. B and C, Postoperative full-face and profile views four months after operation.

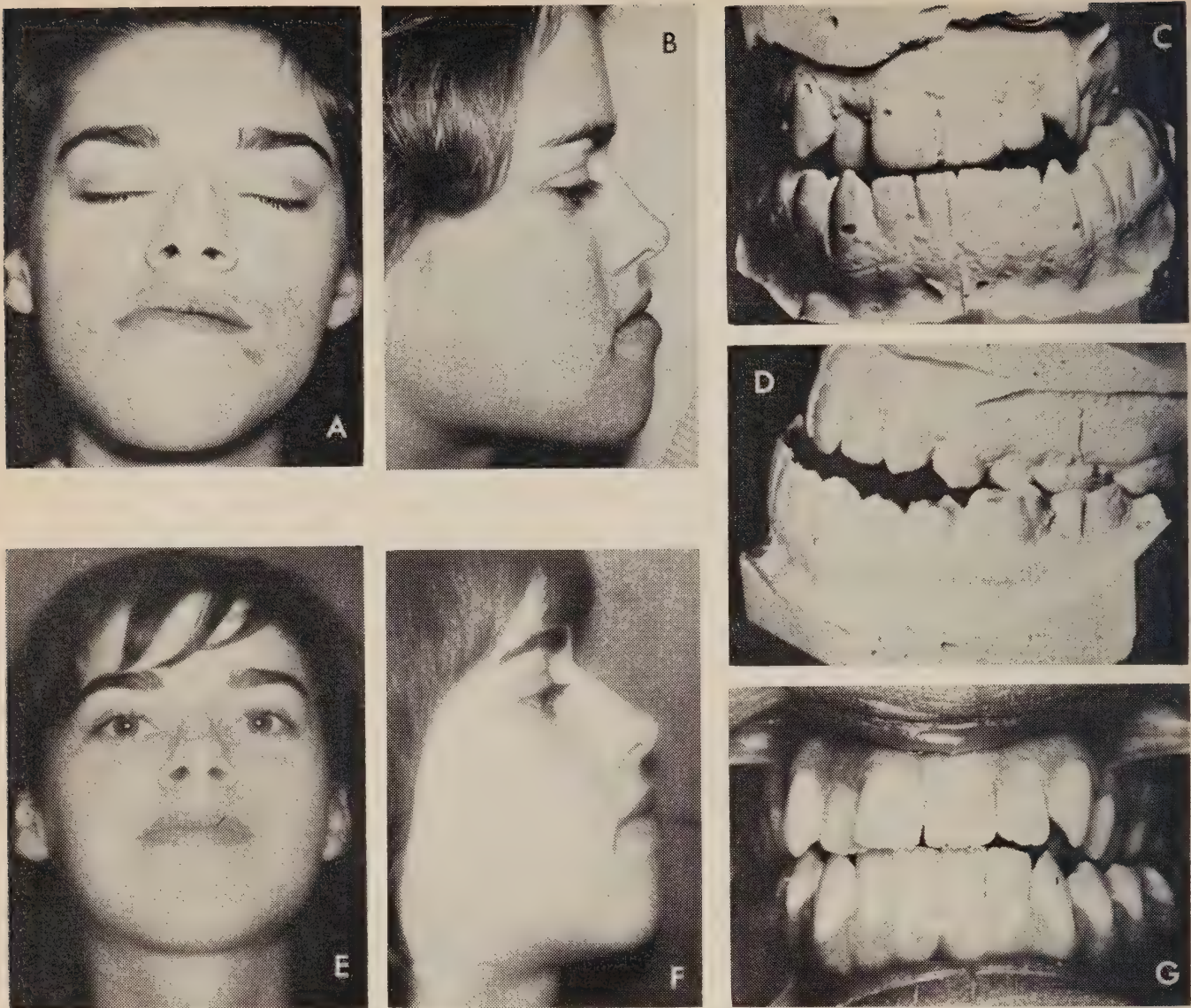


FIGURE 9 Oblique osteotomy of ramus in a 17 year old patient. A, B and C, Pre-operative appearance. E, F and G, Postoperative appearance five months after operation.

lary wires. The surgeons now regown and reglove, the wound is carefully inspected and then closed in layers. Plain cat-gut is used to close the deep layers. Special

care is taken to approximate the muscles (platysma, masseter) accurately and firmly before closing the skin with 5.0 black silk.



FIGURE 10 Condylotomy in 30 year old patient. A and B, Pre-operative views. C and D, Postoperative appearance seven months after operation.

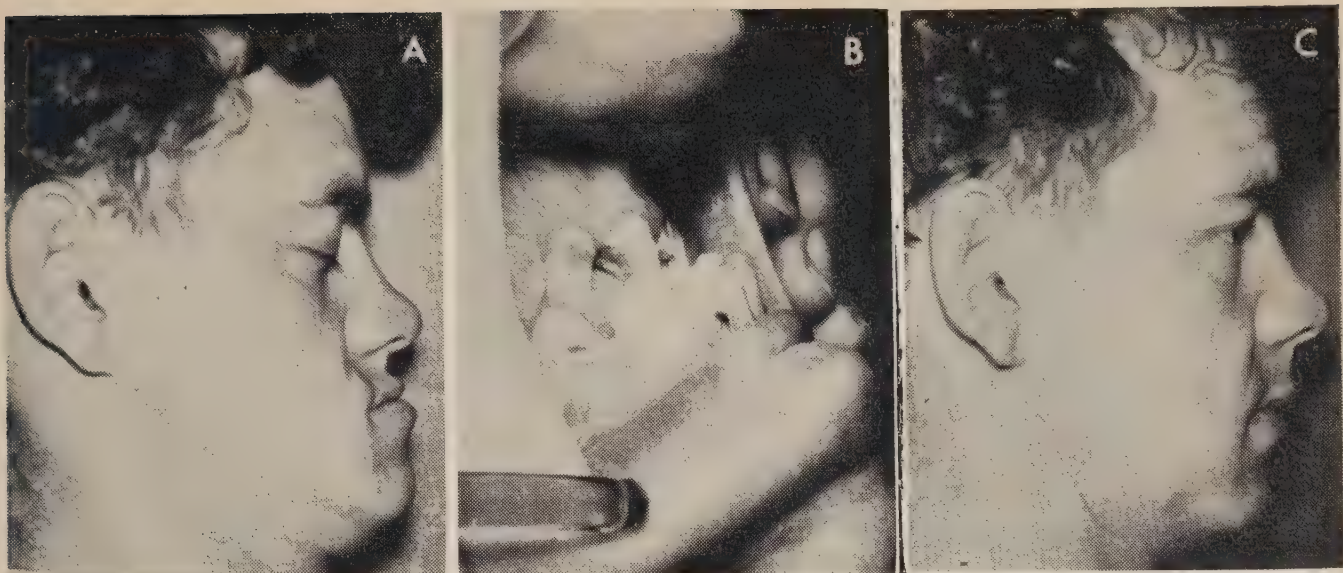


FIGURE 11 Bilateral condylotomy in 20 year old patient. A, Pre-operative profile. B, Class III occlusion and extensive caries. C, Postoperative view three months after operation which was undertaken despite extensive caries.



FIGURE 12 Bilateral condylotomy in 16 year old patient. A, Pre-operative profile. B, Postoperative profile eight weeks after operation. C and D, Pre-operative and postoperative occlusal relationships. Note Risdon arches in 12D.

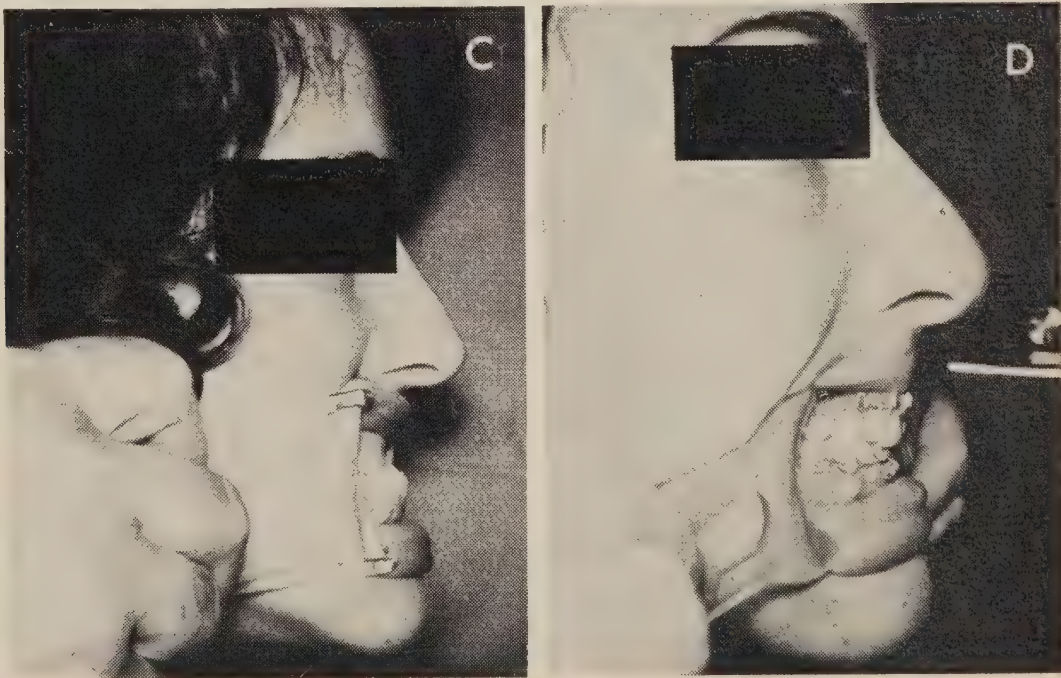


TABLE 1 Surgical procedures employed for the correction of 150 cases of prognathism.

Operation	Treated patients	
	No.	%
Subcondylar osteotomy	82	55
Oblique osteotomy of ramus	45	30
Body of mandible ostectomy	15	10
Horizontal osteotomy of ramus	5	3
Edentulous patients	3	1
Total	150	

Routine postoperative orders include provision for wire cutters and suction at the bedside. In case of respiratory difficulties the two or three intermaxillary wires only should be cut. Intravenous feedings are given until the patient can manage a liquid diet in six daily feedings. This diet has a high content of vitamins, proteins and calories. Antibiotics, analgesics, anti-emetics and ice bags are routinely administered or applied. The patient usually experiences some oedema which reaches a maximum in 48 hours and then gradually subsides. Alternate sutures are removed on the fourth post-operative day and the remaining sutures come out on the fifth or sixth day.

The patient is usually discharged on the sixth or seventh day following the operation, with instructions to follow a strict diet and daily oral hygiene measures. Thereafter we see the patient once every week for an eight to ten week period. Any necessary adjustments or tightening of wires are made at these visits.

Jaw immobilization is usually maintained for about ten weeks in subcondylar osteotomy or oblique osteotomy of the ramus, whereas immobilization is maintained for eight weeks in horizontal ramus osteotomy with direct osseous wiring or ostectomy with fragmental wiring. We find these extended periods of immobilization are necessary to allow bony union and, more important, muscular accommodation.

Intermaxillary wires and Risdon arches are removed when we are certain that there will be no shifting of occlusion. The occlusion is further improved by

judicious grinding. This is done two or three weeks after the jaws have been mobilized and the patient can open and close his mouth reasonably well.

We have learned by experience that the longer intermaxillary fixation is maintained, the fewer the complications (such as anterior open bite). Ten weeks' immobilization may seem like a long time to the patient but he learns to talk, eat, work and play quite well after the first ten days.

TREATMENT EXPERIENCE WITH 150 CASES

We have treated 150 prognathic patients during the past 11 years. About four-fifths (120) had true prognathism; the remainder (30) had false prognathism characterized by an underdeveloped retrusive upper jaw. Only five of the 150 patients had apertognathia as a complicating condition. Three of the patients were edentulous. Table 1 indicates the surgical procedures employed for these 150 patients. A high condylotomy (subcondylar osteotomy) was the operation most frequently performed. In patients presenting a very obtuse gonial angle we performed an oblique sliding osteotomy involving the condyles and ramus, from the sigmoid notch to the angle of the mandible. Ostectomy through the body of the mandible was employed in cases where we wished to reduce the length of a very elongated mandible. Horizontal osteotomy of the ramus was used to obtain optimal occlusion and aesthetic results in a few selected patients. An open surgical approach was used

throughout. We offer no criticism for closed, blind techniques; we simply do not use them.

Postoperative complications are rare. The commonest is anterior open bite which occurs when the intermaxillary wires are removed too soon. It is necessary to be firm and refuse the patient's request to open his jaws prematurely.

Our results have been highly gratifying. We have neither experienced postoperative osteomyelitis, nor have we ever encountered true non-union. This we attribute to rigid observance of asepsis during the operation and to proper immobilization of the jaws. Only once was a subsequent tracheostomy performed. This was necessitated by the postoperative use of perphenazine (Trilafon).⁵

Apart from occasional and minor mechanical hindrance, the tongue has never seriously interfered with the establishment of an optimum jaw relationship. Although orthodontists often express concern over the possibility of tongue enlargement, we feel that this

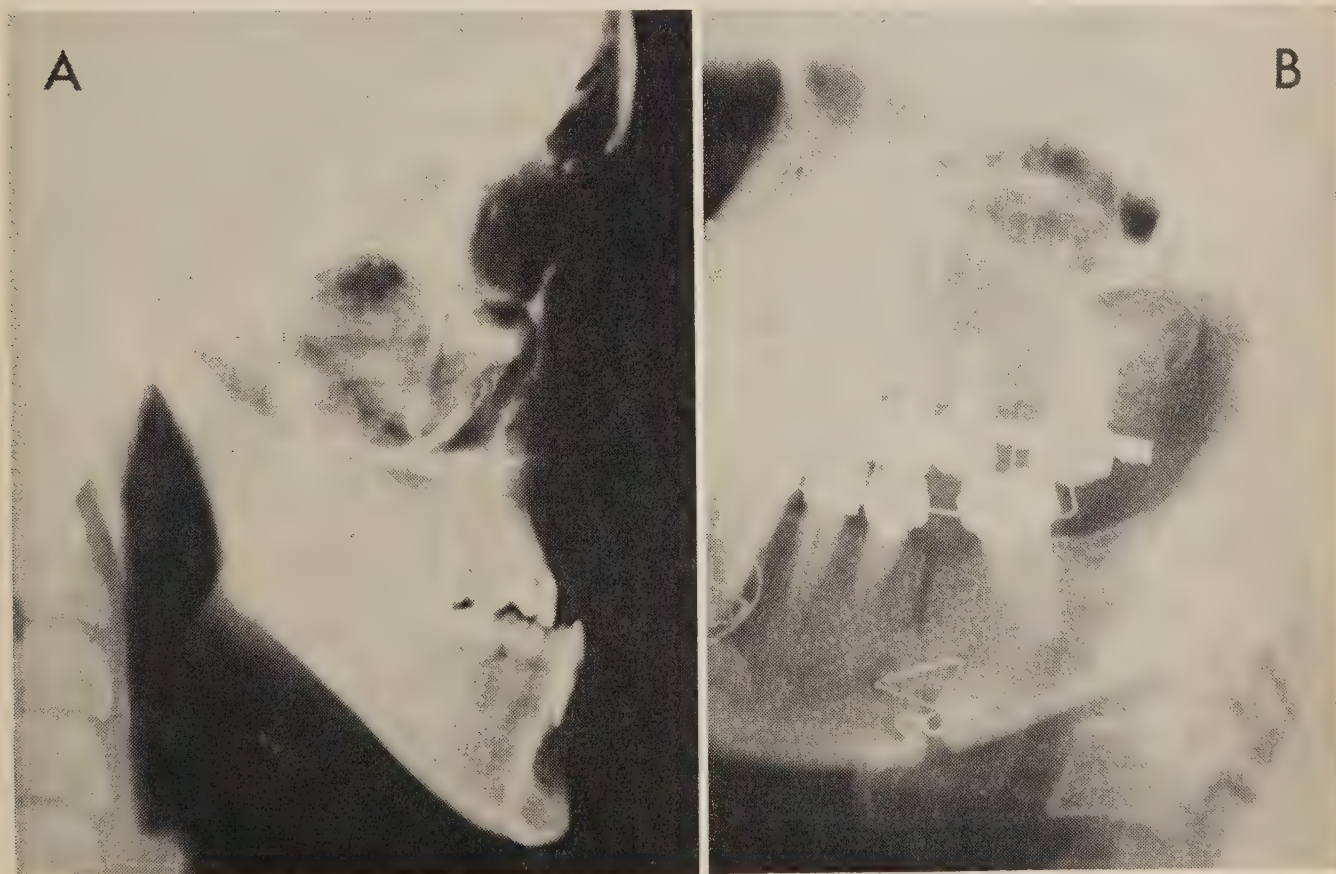
muscular organ quickly accommodates itself to the reduced intra-oral space. After eight or ten weeks of jaw immobilization an enlarged tongue decreases in size. Moreover, any pre-existing untoward tongue habits disappear spontaneously.

Because of the surgical procedures employed, we have never experienced postoperative temporomandibular joint problems. Where such problems existed prior to the operation, they disappeared thereafter. This was mainly due to the improved jaw relationship and occlusion.

Paraesthesia appears to be a negligible hazard. We have never experienced complete and permanent paraesthesia, although in five cases we produced partial paraesthesia. These patients accommodated well to the condition.

Resection of a portion of the mentum was only required on one occasion. This is a hazardous operation which should not be lightly undertaken. It is usually an unnecessary operation.

FIGURE 13 Two-stage body of mandible osteotomy. A, Pre-operative lateral radiograph of true prognathism with excessive growth in body of mandible. B, Postoperative lateral radiograph one week after operation.



SUMMARY

Methods and results achieved in the treatment of 150 patients with mandibular prognathism are described. The four techniques available for the correction of this deformity are subcondylar osteotomy, oblique sliding osteotomy of the condyle and ramus, horizontal osteotomy of the ramus, and ostectomy through the body of the mandible performed in two stages. Factors governing the selection of the appropriate technique are outlined. The

importance of postoperative immobilization is also stressed.

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25 Brunswick Avenue



Peggy's Cove, near Halifax, in a quiet reflective mood. Visit this picturesque fishing village when you are in Halifax for the C. D. A. National Convention in June 1966.

A view from the Royal Commission on Health Services

C. L. Strachan, D.D.S., London, Ontario

I welcome the opportunity to give some personal account of my stewardship as a commissioner on the Royal Commission on Health Services. I wish to make it perfectly clear at the outset that I was not the dental representative as such on the Commission, because we were not chosen or appointed on that basis; otherwise, many more professions would have had representatives on the Commission. However, I scarcely need deny that dentistry was my prime personal interest and I say so, knowing quite well that some readers may doubt or question such a statement.

I must go back four years to March 1961 when I received a telephone call asking me if I would permit my name to be considered for the Commission. My automatic and immediate reply was to suggest the names of two men who I felt could do the job better than I. With still other names in my mind I was cut off with the reply that for this or that reason they could not be considered. I was then assured that at least two other names were under consideration. So, rather than risk being accused of shirking a duty toward my profession and my confreres, I

failed to refuse. Under those circumstances, however, I saw no chance of ever being selected. Upon my oath, I did not one thing by word or action to secure the appointment. Weeks and months passed without any contact whatsoever with anyone and I began to feel more and more certain that I was not the one to be appointed. Suddenly, at ten o'clock on Sunday evening June 18, I received a telephone call from the Minister of National Health and Welfare telling me that my name would be announced on Monday or Tuesday as a member of the Commission. At that stage, and so instantly, I found no effective way of saying 'no' to a minister of the Crown.

In all fairness, permit me to state that such a Commission makes superhuman demands upon its members because you are dealing with mental giants in their own spheres of activity and in areas for which we, as dentists in general, have no training or experience. For instance, who in our profession can refute the projections of an economist, since in many cases these projections are based on someone else's assumptions? Only the future can prove whether that economist was right or wrong. Or who is qualified to judge when each of opposing authoritative views is made to appear reasonable

Based on a paper presented at the annual convention of the Ontario Dental Association, Toronto, May 17, 1965.

and plausible? If such a man exists in dentistry, I wish that he had been in my place because let me emphatically assure you that I am not so egotistical as to consider myself God's gift to the Commission. I can, however, say that I have endeavoured to give all which my humble ability could provide and if I should have appeared to be remiss or derelict in my duty, it was not intentional.

It was, to say the least, an oppressive responsibility which weighed heavily on my mind at all times and from which there was no relief or relaxation. For those many months I was in complete isolation. I did not dare to speak to other dentists to seek their advice because of the strict secrecy demanded by such a Commission. As the only one of seven Commissioners in any way representing dentistry or nearly 6,000 dentists, mine was not an enviable position to be in. Here, permit me to interject my thanks and appreciation to former Canadian Dental Association Secretary D. W. Gullett for his counsel and encouragement during the discharge of this obligation. Dr. Gullett is the one man who keenly appreciated the difficulties of the task.

True, this appointment was indeed an honour not to be taken lightly. But with it came a great responsibility, and the honour was one without which I could have lived more happily during the past four years. Nevertheless, from the moment of my appointment, I was fully aware that I could not expect any personal glory to evolve from it, and I have not been disappointed. Perhaps some may think that I had political ambitions. Well, I have not been and I do not expect to be a politician. Moreover, on the family record alone, I did not expect this appointment. Certain valued friendships have been marred by entirely wrong assertions and accusations as to how I received this appointment. Some persons, of course, appear to know more about it than I do myself.

These are the facts which I feel you should know and they are certainly not written as any apology. But let me assure you that it was no easy task or pleasure trying to carry on a busy general practice for about two years, spend-

ing alternately two weeks at home and two weeks away. I do not recommend it under any circumstances.

The Commission was originally a seven-man body consisting of the chairman, Chief Justice E. M. Hall of Saskatchewan and now a member of the Supreme Court of Canada; an industrialist and practical economist; a professional economist who was formerly a government employee and latterly a university professor; two physicians; a nurse; and myself. The number was, however, reduced to six at an unfortunate stage. The Commission had an official secretary who had gained experience with several previous commissions and is now serving another. It was he who made all arrangements and kept things organized both in Ottawa and while travelling. There was a full-time research director with assistants, a part-time research adviser, a part-time medical adviser, and several highly qualified experts who conducted 26 studies for the Commission.

After preliminary meetings in the summer of 1961, the Commission travelled from coast to coast in a party of about 17, composed of limited secretarial staff, court reporters, some professional representatives as well as the Commissioners themselves. Hearings were held in Ottawa and every provincial capital in Canada, plus Montreal and Vancouver. All provincial governments except those of Quebec and British Columbia presented briefs, but the capitals of these two provinces were visited as stated.

During these hearings over 400 presentations were made. The briefs varied in size from a page to several hundred pages which, when assembled, made a 13 foot high volume of foolscap printed on one side. There were absolutely no limitations or restrictions on who could make presentations. Many individuals did so and, of course, so did scores of organizations and associations. Sittings took from two to three days in some places to a full month in Toronto where the largest number of presentations was heard. Rules prescribed the form and the time by which these presentations had to be received prior to the hearings so that we could receive copies for individual study

before the sittings. But I regret that extreme laxity with respect to timing caused some briefs to come to our hands the night before or even just prior to presentation. No time limitations were imposed on any individual or group making a presentation. Following the presentation any or all members of the Commission were permitted to ask questions. Every word, written or spoken, was recorded by court reporters. Each reporter would serve for 15 or 20 minutes and then retire to record his shorthand notes by voice. From that voice recording transcripts were made and were in our hands on the following morning.

I scarcely need to tell you, but let me emphasize, that the views expressed in all sincerity by individuals, groups or associations were not merely divergent but totally and diametrically opposed to each other. Consequently, it was utterly impossible for the Commission to accept everyone's ideas and recommendations.

Recommendations of many strong influential organizations, while by no means ignored by the Commission, were not accepted or incorporated in its report; but certainly this cannot be said of the dental presentations. About one-sixth of the Commission's recommendations deal directly or indirectly with dentistry. The great majority of these are in complete compliance with the wishes of the profession as expressed by the Canadian Dental Association. Here, permit me to make it perfectly clear that the Royal Commission on Health Services was charged to ensure that the best possible health care is available to all Canadians. Therefore, the special interest of any particular organization or of its members was not the primary concern of the Commission, irrespective of how seriously we or others may take ourselves or our own interests. The Commission, however, had to adhere to a 12-point order-in-council. Moreover, the Commission adopted a self-imposed health charter. Its 235 recommendations were made after conscientious study, discussion and consideration, with advice from those considered most knowledgeable in particular spheres of health and finance.

Just as individuals or organizations

making presentations to the Commission could not have their own way, so no member of the Commission got his or her own way. It would be utterly ridiculous for me to state that I am in full agreement with all the recommendations or that I am personally satisfied about all dental recommendations. I certainly do not deserve all credit nor do I accept all responsibility or blame for matters pertaining to dentistry. I will not attempt to be specific in this respect but I would ask readers to temper their judgement with good sense.

May I here express my personal gratitude for the guidance and support which I derived from the various dental briefs. I make no apology for singling out that of the Canadian Dental Association which I felt obligated to accept as a master plan for my guidance. If the members of the Commission were asked for the model presentation, they would, I feel sure, place the C.D.A. brief at or near the top. It was one brief which was considered point by point. How favourably each point was dealt with by the Commission must be left to the individual judgement of 6,000 dentists; but not all those dentists would be in complete agreement with the C.D.A. brief in the first place. I think I can say with some assurance that dentistry got much favourable consideration from the Commission even though it did get some things that it had not asked for.

Regarding the Commission's recommendations, let me refer to the exclusion of dental oral surgeons from the proposed medical services program. I regret any disappointment—no words of mine can change that which has been printed. While it is not an answer or solution, may I admit that my personal efforts on the Commission were no more successful than those of provincial groups which made representations to the Medical Services Insurance Inquiry in connection with Bill 163 of Ontario ("An Act Respecting Medical Services Insurance").

On the other hand, the Commission could not have been more positive than it was regarding fluoridation of communal water supplies. It also recommended "that dental public health educational programs be organized and actively

promoted in all health regions or units in the nation;" "that the Health Science Research Council establish, as part of a continuing system of health statistics in Canada, a dental health survey including the maintenance of the dental health index established by the Canadian Dental Association;" and "that special consideration be given to dental requirements of children suffering from physical or mental handicaps and the frequent need to admit them to hospital in order to provide essential dental treatment."

The establishment of departments of dentistry in major general hospitals is forcefully advocated as are centres for treatment of cleft palate cases in children's hospitals and likewise in general hospitals where adequate paediatric and associated services are available.

Education and recruitment of dentists and dental research received major consideration. It is recommended that funds be provided for half the cost of expansion and renovation of five dental schools and similarly for the cost of construction of five new dental schools within the next 10 years. The Commission also advocated, "that the Professional Training Grant be increased to provide for an annual grant, on application, of \$2,000 a year to each Canadian dental student with satisfactory performance in his final two years at a Canadian dental school;" "that to help ensure that dentists in practice maintain a high level of competence, dental schools should inaugurate or expand programs of continuing education, and that fees, travel and living expenses for attendance at such courses be regarded as deductible expenses for income tax purposes;" "that funds be made available to dental schools to provide adequate remuneration in order to increase the ratio of full-time to part-time staff;" "that additional funds be made available to universities to enable dental schools to expand graduate programs for training specialists and to add these programs where they do not now exist;" "that to reduce the serious shortage of dental specialists, as part of a seven year crash program, Professional Training Grants of \$5,000 be allocated to dentists undertaking postgraduate studies including those

taking dental public health and those preparing for university teaching;" "that the dental schools provide special courses in children's dentistry and that Professional Training Grants of \$5,000 be made available as part of a seven year crash program for dentists entering the service who wish to take advantage of the special courses, and preparation for specialist qualifications."

This leads me to the training of the dental auxiliaries proposed by the Commission. These dental auxiliaries would "be qualified to prepare cavities and place fillings in the teeth of children, under strict clinical and preclinical supervision, and to undertake dental health education and give instructions to patients in self care." Here, I must state that I was neither the originator nor the promoter or supporter of this proposal. But heads could not be turned, as evidenced by the priority which this proposal has been given by the Commission when it claims that the children's program "is so important that it cannot await federal government and provincial government decisions on the comprehensive health program as a whole and of which this benefit might be considered a part. This program must have one of the highest priorities among all our proposals."

Nevertheless, I believe we should also view the Commission's side of the coin. Scarcity of dentists in all parts of the nation was emphasized and the dental needs of Canada, particularly of children, were stressed by all dental representations to the Commission. I, personally, am well aware that the ratio of dentists to population is not critical in all corners of Canada but, in general, it is sufficiently serious to be alarming. But after having seen thousands of children during the past two years in the City of London whose dental resources compare favourably with any in the nation and which has a school dental treatment service second to none in Canada, I have no hesitancy in stating unequivocally that the children of Canada, and indeed even of that city, are not being adequately cared for. And here let us not introduce the old chestnut of need versus demand because in this case they are practically

equivalent or identical. Is it not a natural conclusion that, apart from such a favoured community, children in average urban and most rural areas of Canada are indeed in need of attention, to say nothing of areas lacking in dental personnel?

Certainly, I am aware that more dentists are caring for more children. But let us not overlook the fact that the passing years and advanced techniques have added to the cost of children's dental care and made it prohibitive for more people. I believe, moreover, that the trend toward extensive oral rehabilitation and full coverage is appreciably reducing the time available for the care of children which, in turn, leads to more oral rehabilitation and full coverage in later life. Personally, I see no escape from the fact that Canadian children are not receiving adequate dental care and treatment. Moreover, while I respect research for what it is worth, I do not see why the children of today and tomorrow should suffer in the hope of what research may achieve some time in the future. All the education or information in the world will not stop an existing toothache or restore lost tooth tissue.

Returning directly to auxiliaries, could the Commission possibly ignore the fact that New Zealand dental nurses have proven their worth in that country? If this were not the case, surely New Zealand would have abandoned this approach long ago. But that country's school dental service flourishes today more than ever. And when I met the president of the New Zealand Dental Association while in London, England, he voluntarily stated that members of his association would not think of being without their dental nurses.

Could the training and accomplishments of similar personnel in Great Britain be ignored by the Commission? I think not. Neither can it be denied that these young women can be and are being trained and qualified to fulfil the duties required of them.

I realize how inviting it is to be critical of the New Zealand and British auxiliaries. Nevertheless, if such criticism is justified, Canadian dentists should try to

train a superior personnel and the fully trained dentist should try to render a superior service in his private practice. Much has been said and claimed in past years about what can be done in Canada by properly trained auxiliaries, but no one has come forward to clarify what we mean by this. So far the profession has really only shown interest in one type of auxiliary, the dental hygienist. But have we really accepted in the past, or are we prepared to accept dental hygienists to a degree that will significantly influence office efficiency in the immediate future? I regret to say that the hygienist's training and current duties offer much less toward the care of children than for adults. For this reason I feel she did not receive serious consideration by the Commission.

Before condemning the children's program proposed by the Commission, I would suggest that we keep the children's interest rather than personal and monetary gain foremost in our minds. Let us likewise be very sure that any criticisms or counter-proposals would indeed serve the interests of children better than what has been suggested by the Commission. I will admit that figures have been produced to show how the dentist's productivity can be enhanced by our present auxiliaries. But unfortunately there is no proof that a sufficient number of private practitioners intend to practise so that an appreciable gain will be made by this method in the immediate future. Although the dental profession has developed high capabilities for treating individual patients, the attention of the profession is still directed toward supplying superlative care for the privileged few.

Let us not ignore the fact that from time immemorial it has been recognized that children are more favourably influenced by the female of the species. Is it therefore not reasonable that young women could handle children as well or even better than some dentists, and that a better adult patient may well result?

I would hope that this proposed new personnel is never subjected to daily production quotas. They should be afforded ample opportunity to educate the children, to handle their charges properly

and as necessary, and to give of their best efforts and ability.

I think we need have no delusion that all dental care for children would be rendered by such auxiliaries. I doubt whether the suggested children's program would appreciably affect the private practitioner. The parents who can now afford such service for their children will likely continue to avail themselves of that service. Moreover, the demand for specialists, particularly orthodontists, will be greatly increased.

We are certainly entitled to reservations concerning the suggested auxiliaries. On the other hand, the Commission was also much impressed by dental presentations which emphasized that we do not have enough dentists and that those there are, are too busy to accept more responsibility. Lack of personnel undoubtedly served to postpone the introduction of a nation-wide dental care program during the past two decades and may yet possibly defer such a scheme for a further similar period or even longer.

Meanwhile, it remains glaringly apparent that the children of Canada are not receiving adequate care. Five to 10 years are required to train a dentist, depending on whether a student can enrol immediately or whether he must await the establishment of a new dental school. That is why the crash program to train operating auxiliaries was conceived and strenuously promoted. This gigantic undertaking is virtually beyond the scope of my imagination. Even now it is delayed in relation to the time schedule suggested by the Commission.

We have evaded nationalization, at least for the time being. This may afford an opportunity to take a good look at ourselves. No one is more proud of being a dentist than I, but let us not take ourselves too seriously or even delude ourselves that we stand in the front of the health line. We are certainly important, but we are only a very small part of all health personnel. We should also acknowledge that we have only made a

token payment for our professional education, even though it may have been expensive for us or our parents. If public funds aided us, then the public has a right to expect something in return. This may be another way of saying that we were not granted the right and privilege to practise our chosen profession solely for our own aggrandizement or personal enrichment. If, and when, we fail to discharge that obligation as a profession, governments hold the power and right to decree what shall be done.

Although we have so far eluded nationalization, we are encountering a growing trend toward voluntary prepaid dental services. The degree of honesty and integrity we exhibit toward third parties who pay us for these services may well determine the regulations and restrictions that could be imposed on us should nationalization eventuate in the future. We need not expect much favourable consideration if some dentists are prepared to sacrifice the profession by ignoring reason and dental need, by substituting personal gain, and by asserting that the sky is the limit in fees and treatment if a third party is paying the bill. I doubt if there is any other way a third party can pay us than by reference to a recognized fee schedule. This still leaves the dentist free to impose a surcharge for superior services provided this is explained to the patient before treatment is commenced. Moreover, when a third party pays the bill, that party has every right to expect a detailed account couched in the terminology of the recognized schedule.

I think that we have reason to be concerned about these matters because, although the profession has temporarily evaded direct involvement in a national health plan, those few dentists to whom I refer are laying the foundation for the strictest controls and limitations verging upon a police state for our profession. I personally hardly expect to see this but I repeat that we had better do some serious thinking and self analysis before it is too late.

112 Elworthy Avenue

Medicare and the national purse

When the Hall Royal Commission explained that its medicare proposals would add another \$466 million to the \$4 billion Canadians will already be paying for health services by 1971, we got some idea of the price tag. When the Commissioners recommended expanded public expenditures through premiums and taxes collected by federal and provincial authorities, we knew they envisaged a rising commitment on the part of government. By 1970, with medicare and the Canada Pension Plan and no other new program, government spending will reach about \$6 billion. Can the economy support that level of spending on health and welfare services? Is the tax burden imposed by these services realistic? Or will too large a share of the nation's productive resources be channelled into these services at the expense of other desirable — and perhaps more productive — objectives, such as education and employment?

Garth Hopkins,¹ associate editor of *The Financial Times of Canada*, has estimated that government expenditures on health and welfare services climbed from 2.6 to 9.3 per cent of the gross national product during the past 20 years. Part of this change resulted from the transfer of certain services from the private to the public sector of the economy. Such replacement of individual expenditures by government expenditures merely changes the method of payment without necessarily increasing true net spending on health and welfare services. Moreover, as Hopkins points out, government's share of health and welfare costs could, by 1970, drop back to 5 per cent of the GNP if the latter grows at the rate projected by the Economic Council of Canada.

The important question is whether government's rising commitments in health and welfare services can be accomplished without additional taxation. Some provinces will undoubtedly have to impose new taxes to finance medicare; others may not. Ottawa seems to think that it can pay its 50 per cent share without new taxes. And the Economic Council of Canada believes that projected federal tax revenues will, by 1970, be far larger than committed increases in expenditures under increasing, new or changed programs suggested in the McPherson (transportation), Gill (unemployment insurance) or Hall (medicare) Royal Commission Reports. If the economy expands at the rates outlined by the Economic Council of Canada, the present tax structure would yield about \$13.1 billion in federal taxes by 1970. This is about \$6 billion more than current revenues. In that case the federal government would probably have to consider several alternatives: reducing federal tax rates, undertaking new functions, making changes in federal-provincial financial arrangements or debt repayment.

But these rosy predictions assume that economic growth targets will be met. Hopkins is convinced that Canada can afford the proposed level of health and welfare services over the long run. But he questions whether we can achieve it immediately without hampering economic growth during the next five years — a critical period.

Health and welfare services, he explains, are neither a direct gain nor a positive stimulus to the economy. Old age security payments, for example, extract money from one segment and re-allocate to another. It is then re-spent on essential goods and services. Medicare, on the other hand, will create additional demands as health services are extended to cover a larger population. But that increase is locked into health care, instead of being available for other goods and services of greater expansionary potential.

The impact on domestic prices of goods and services must also be considered, as well as the effect this has on Canada's competitive position in world trade. The Canada Pension Plan could raise general price levels by 1 per cent. Medicare may also produce price pressures. Rising prices could trigger a demand for higher wages and lead to higher production costs. If Canada's price and wage levels should then rise relatively faster than those in other countries, whatever competitive advantage we now possess would be further eroded.

The creation of a large number of new jobs during the next five years is considered by Hopkins as Canada's primary economic need. This can only be achieved by expanding our manufacturing capacity. But we cannot expand capacity without markets in which to sell our goods. We cannot sell our goods if we cannot offer them at competitive prices. Hopkins therefore believes that the immediate imposition of additional health and welfare services, when every effort should be directed to expanding our productive capacity, will hamper our total economic endeavour more seriously than, say, five years hence when it would be imposed on a stronger economic base.

Higher commitments for health and welfare services also increase the rigidity of the federal budget and reduce the proportion of revenues available to pursue other fiscal goals — new incentives for industry, for example.

The economic conclusions that emerge from Hopkins' analysis seem to be these: In the long run we can certainly afford universal medicare. But the required tax revenues will only materialize if projected economic growth rates are achieved during the next five years. These growth rates are considerably higher than we have been able to achieve for any sustained period in the past. Too rapid an imposition of expanded health and welfare measures could therefore dangerously strain the economy during a critical period of the nation's development. "At best, it could retard the essential effort to create the strong and growing economic base we need to meet our primary economic and social objective. At worst, it could wreck it."

1. Hopkins, Garth. Medicare and the Canadian economy. *The Financial Times of Canada* 54: No. 10:7, August 2, 1965.

D.D.S. et droit à l'exercice de la profession dentaire

Au moment où j'écris ces lignes, une quarantaine de jeunes diplômés en droit sont empêchés d'exercer la profession qu'ils ont choisie parce qu'ils ont failli aux examens du Barreau. Ces jeunes gens détiennent tous le titre universitaire dont ils ont besoin, certains ont même obtenu des résultats académiques qui dépassent de beaucoup le minimum nécessaire.

Les étudiants mettent en doute la valeur du certificat de pratique de la profession. Le bâtonnier lui, explique que le problème réside notamment dans le fait que les facultés de droit s'orientent de plus en plus vers l'enseignement du droit académique, alors que le Barreau insiste beaucoup sur la formation de véritables praticiens. Il préconise la formation d'une école de droit sous le contrôle de la Chambre professionnelle, suggérant ainsi un nouveau morcellement d'un système d'éducation que beaucoup s'acharnent à unifier.

Le doyen de la Faculté de droit de l'Université Laval déclare carrément que "l'enseignement universitaire tel qu'il est dispensé ne prépare pas aux examens du Barreau." D'après lui, la difficulté vient du fait que l'université et le Barreau ne possèdent pas les mêmes buts.

Il existe là un problème très intéressant, celui des relations qui doivent exister entre l'université d'une part, et un corps professionnel d'autre part. Il est normal qu'il y ait divergence d'opinions très marquée. Ce qui est malheureux, c'est que ce soient les étudiants qui aient à souffrir de ces différences d'opinions, en se trouvant privés du droit d'exercer leur profession, privilège qu'ils attendent depuis plusieurs années, et qu'ils ont certainement mérité, puisqu'ils ont fourni l'effort nécessaire pour obtenir des résultats académiques satisfaisants.

Il ne faudrait pas être surpris que le même problème se pose d'une façon également aiguë dans la profession dentaire, spécialement dans la province de Québec, où les universités et le Collège des chirurgiens dentistes ont jugé bon d'établir chacun de leur côté des examens totalement indépendants.

On retrouve en effet la même situation, puisque l'étudiant doit d'abord obtenir de l'université son diplôme de docteur en chirurgie dentaire, avant d'être autorisé à se présenter aux examens du Collège des chirurgiens dentistes qui lui donnera le droit d'exercer sa profession.

Le diplôme universitaire ne donne donc pas le droit de pratique et il est possible d'imaginer un corps professionnel dentaire qui soit insatisfait de l'enseignement donné à l'université et qui se permette d'échouer un grand nombre de candidats, tout comme vient de le faire le Barreau de notre province.

Le rôle principal de l'université est d'abord et avant tout d'être un centre de culture et de recherche. Ce n'est qu'en autant que l'université remplit bien ce rôle primordial, qu'elle sert notre société. Il faut se défendre avec acharnement contre cette tendance qui voudrait n'attacher d'importance qu'à ce qui a des applications pratiques immédiates. Ce n'est que par extension, par un concours de circonstances, que l'université s'engage dans la formation des professionnels, et il ne faudrait pas que ce but secondaire devienne plus important que le premier.

Il faut aussi comprendre que dans un monde qui change à un rythme aussi rapide que le monde d'aujourd'hui, seule une formation ou une culture de base peut permettre à un professionnel d'évoluer assez rapidement pour espérer être encore à la page 25 ans après sa graduation.

Par ailleurs, l'université en recevant les étudiants leur fait la promesse au moins implicite de leur ouvrir les portes de la profession. Cette promesse, l'université a le devoir de la tenir, et l'étudiant qui gradue en n'ayant reçu qu'une formation théorique, à l'exclusion de la formation pratique que peut exiger le corps professionnel, n'aurait pas reçu de l'université ce à quoi il avait le droit de s'attendre.

Le corps professionnel, le Collège des chirurgiens dentistes par exemple, a un point de vue totalement différent de celui de l'université, et des responsabilités non moins différentes. Il doit à la fois protéger le public et le bon renom de la profession, en n'admettant à la pratique que des professionnels qualifiés, prêts à faire ce dont le public a besoin quotidiennement. Il doit de plus, et c'est une responsabilité tout aussi importante, d'assurer que les nouveaux diplômés ont une culture générale et scientifique suffisante pour qu'on puisse

espérer que chacun d'entre eux progresse avec l'ensemble de la profession, et demeure continuellement à date.

Il est évident qu'une entente parfaite et une collaboration très étroite entre l'université et le corps professionnel est indispensable au succès de la formation des membres de la profession de demain.

Le problème se complique en plus de l'existence du Bureau national d'examen dentaire du Canada. Cet organisme qui a des responsabilités absolument identiques à celles du collège provincial, offre lui aussi une porte d'entrée à l'exercice de la profession. L'entente doit donc s'établir entre l'association dentaire nationale, les collèges provinciaux, et les universités.

Heureusement, les cadres existent déjà dans lesquels il sera possible de discuter. Des conseils d'éducation et autres organismes semblables existent aussi bien au niveau national qu'au niveau provincial. Ils ont siégé souvent par le passé et rendu d'immenses services, ils siègeront encore. Il suffit de prendre conscience du problème, de se rendre compte que malgré les divergences de vues fondamentales qui doivent normalement exister entre les universités et les associations professionnelles, il est nécessaire d'en venir à une pensée commune relative aux exigences d'admission à la profession.

Le problème ne se pose pas encore avec acuité. Il est largement temps de le prévenir. N'attendons pas d'avoir placé une quarantaine de jeunes diplômés dans une situation difficile, avant de nous demander ce qu'il faut faire.

Comment pourrez-vous faire face aux frais fixes de votre cabinet, si vous tombez malade ou si vous subissez un accident? Evidemment grâce à une assurance qui couvre les frais fixes du cabinet. Plus de 2,000 dentistes font partie d'un plan d'assurance qui couvre ces frais fixes de cabinet et qui est patronisé par l'Association dentaire canadienne. Si vous désirez vous protéger contre ce risque, écrivez dès maintenant aux Plans d'assurance et de retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ontario.

Ottawa expose ses projets 'Medicare'

Le Premier Ministre Lester B. Pearson a engagé le gouvernement fédéral dans la réalisation d'un programme d'assurance médicale, universel et compréhensif, administré par l'état. Les soins dentaires n'en font pas partie pour le moment, mais dès que le programme fonctionnera correctement, Ottawa lui donnera l'expansion nécessaire pour couvrir les services dentaires, les médicaments et les autres soins importants.

Le 19 juillet, lors de l'ouverture de la conférence fédérale-provinciale, M. Pearson a défini ainsi la participation fédérale à des programmes 'medicare' provinciaux:

Universel. — Un programme medicare doit s'appliquer à "tous les résidents sans exception." Une province peut financer son programme à partir des revenus généraux, mais si elle choisissait un système de primes, celles-ci devraient être obligatoires pour tous.

Compréhensif. — Un programme provincial doit couvrir les honoraires de l'omnipraticien aussi bien que ceux du spécialiste, à l'exception de la chirurgie esthétique. Des frais initiaux et clauses de déductibilité ayant pour but d'éliminer bon nombre de consultations inutiles ne sont pas exclus en autant que leur importance ne vienne pas en conflit avec le principe d'universalité, privant ainsi de leurs bénéfices les gens moins fortunés.

Administré par l'état. — Le programme devra être sous le contrôle des ministères de la santé des provinces ou autres organismes de la Couronne. Les médecins pourront exercer en-dehors du programme.

Valable dans tout le pays. — Pour que le programme demeure transférable d'une

province à l'autre, le Premier Ministre suggère qu'une province demeure responsable de son résident trois mois après son départ et que le nouvel arrivant ne puisse faire de réclamation dans une province qu'après y avoir résidé pendant trois mois.

Le gouvernement fédéral s'attend à payer de 275 à 300 millions de dollars du total de \$600 millions prévu. Ottawa se prépare à finaliser les détails de son offre, soit \$14.00 per capita, à toute province qui accepte de rencontrer les exigences ci-haut mentionnées.

Entre-temps l'Association médicale canadienne a donné l'avertissement suivant: "Il est fort possible que nos chefs politiques promettent de fournir au public des services que notre population médicale n'est pas en mesure de donner." En réponse à cette objection, M. Pearson a déclaré que le gouvernement fédéral mettra sur pied un Fonds de ressources de la santé qui devra administrer un nouveau programme d'octrois très important pour les écoles médicales, les hôpitaux universitaires, et les institutions de recherche.

L'Association

Un compte-rendu complet de l'assemblée de Québec, dans les Délibérations 1965

Les membres de l'Association pourront lire dans les *Délibérations* de l'Association dentaire canadienne un compte-rendu complet et détaillé de la 64ème réunion

annuelle du Conseil des Gouverneurs de l'A.D.C. tenue à Québec. Le numéro 1965 des *Délibérations*, distribué aux membres le mois dernier dans sa version anglaise, sera distribué à la fin de l'année dans sa version française.

On approuve deux nouvelles spécialités

A sa réunion annuelle tenue à Québec, le Conseil des Gouverneurs de l'Association dentaire canadienne a approuvé deux nouvelles spécialités dentaires: la pédodontie et la prothèse. L'Association dentaire canadienne reconnaît donc maintenant cinq spécialités, si l'on compte la chirurgie, l'orthodontie et la périodontie. C'est à la demande du Comité des spécialistes et de la spécialisation que le Conseil des Gouverneurs a pris cette décision.

L'Académie canadienne de prothèse devient la cinquième section reconnue par l'A.D.C. Les autres étant la chirurgie (Société canadienne des chirurgiens buccaux), l'orthodontie (Société canadienne des orthodontistes), la périodontie (Académie canadienne de périodontie), et la dentisterie pour enfants (Société canadienne de dentisterie pour enfants). Cette dernière est une section non spécialisée. La nouvelle Académie canadienne de pédodontie devient un groupe de spécialistes à l'intérieur même de la section pour enfants.

Le Conseil des Gouverneurs a officiellement été informé de la formation de l'Académie canadienne de dentisterie restaurative, il y a un an. On s'attend à ce que ce groupe demande à devenir section de l'A.D.C. sans chercher à être reconnu comme spécialité.

Déficit à la trésorerie

Le trésorier G. M. Dewis de Halifax a fait rapport au Conseil des Gouverneurs d'un déficit de \$11,651.00 sur les opérations financières de l'A.D.C. pour l'année 1964. Un déficit de \$32,750.00 est prévu au budget de 1966 qu'a approuvé le Conseil des Gouverneurs, à Québec.

Le trésorier Dewis indique un profit de \$6,237.00 provenant du congrès national

tenu à Edmonton en 1964. La cause principale du déficit de 1964 est une augmentation dans les frais pour les publications autres que le *Journal de l'Association dentaire canadienne*, de même que le coût des réparations et de l'entretien de l'édifice des quartiers généraux de l'A.D.C.

On a versé \$15,000.00 au fonds de réserve en 1964, portant le total à \$210,979.00. Le Conseil des Gouverneurs a approuvé pour le budget de 1966 un transfert de \$12,500.00 au fonds de réserve en prévision de la dépréciation des propriétés et de leur contenu. Le budget 1965 approuvé l'an dernier prévoyait une opération financière identique. Le budget 1966 prévoit des dépenses pour \$332,000.00 et un revenu de \$299,250.00.

Nouveau Bottin de l'A.D.C.

L'édition de 1965 du *Bottin* de l'Association dentaire canadienne est maintenant disponible. On peut s'en procurer un exemplaire en communiquant avec l'assistant - secrétaire, Association dentaire canadienne, 234 rue St. George, Toronto 5, Ontario. Le prix est de \$2.00 l'exemplaire.

Film de l'A.D.C. primé

Un film de 60 secondes préparé pour l'Association dentaire canadienne, a remporté la quatrième place, dans une catégorie qui comprenait 181 films publicitaires du même genre. La firme Crawley Films Limited qui en est le producteur a reçu un 'certificat de mérite' lors d'un récent festival canadien du film de télévision, tenu à Toronto.

Le Bureau des renseignements au public de l'A.D.C. s'est chargé de distribuer 10 de ces films de 60 secondes aux divers postes de télévision canadiens, depuis 1961. C'est l'un des deux dessins animés distribués depuis 1964 qui a remporté le prix.

Les postes de télévision continuent à employer ces messages de santé dentaire filmés. Un poste d'une région métropolitaine déclare que les messages de l'A.D.C. ont consommé une valeur de plus de \$5,000.00 en temps commercial durant deux mois.

Histoire de l'art dentaire au Canada

Don W. Gullett, ancien secrétaire de l'A.D.C., nous dit que ses travaux vont bon train et qu'il accumule beaucoup de documentation en vue du livre qu'il prépare sur l'histoire de l'art dentaire au Canada. C'est en 1964 que l'Association dentaire canadienne a demandé au docteur Gullett de préparer ce travail historique. Les dentistes qui auraient certaine documentation à ce sujet ou qui pourraient fournir des renseignements d'intérêt historique feraient bien de communiquer avec le docteur Gullett, à 5 Colwick Drive, Willowdale, Ontario. Toute documentation soumise au docteur Gullett sera retournée sur demande.

Canada

Gagnants aux expositions scientifiques

La 4ème Exposition scientifique canadienne s'est tenue à l'Université du Manitoba du 6 au 8 mai. Les 26 expositions scientifiques qui s'étaient déroulées au préalable dans tout le pays y avaient envoyé 68 finalistes. Les prix de l'Association dentaire canadienne furent attribués à Verna Anne Thompson de Milton, Ontario, étudiante de 12ème année au Nelson High School de Burlington, Ontario, et à Robert Paul Brunelle, étudiant de 10ème année au Prairie River High School à High Prairie, Alberta.

L'Association dentaire canadienne qui est un des commanditaires du Conseil de l'Exposition scientifique canadienne, était représentée cette année par W. H. Feasby de Winnipeg qui a servi de juge.

Projet d'école de technique dentaire en Ontario

Les écoles techniques du Département de l'éducation de l'Ontario en sont venues à une entente avec le Collège royal des chirurgiens dentistes de l'Ontario dans le but d'établir une école pour techniciens dentaires. Ce projet est cependant retardé, faute de locaux et d'installations suffisantes.

Cours d'assistantes dentaires dans des écoles supérieures de Toronto

A titre d'essai, on donne actuellement des cours pour assistantes dentaires dans deux écoles supérieures de la région de Toronto (West Hill Collegiate Institute, Scarborough et Etobicoke Collegiate Institute, Etobicoke). Un troisième cours commencera au Lorne Park Collegiate Institute, Toronto Township, en septembre. Il faudra attendre la fin de la période d'essai de cinq ans qui se déroule de 1963 à 1968, avant de pouvoir évaluer les résultats de ces programmes d'études, et de voir s'il y a lieu d'instituer des cours semblables dans d'autres écoles.

Le cours d'assistantes dentaires se donne en 11ème et 12ème années de l'option

M. H. I. Bolker, président du Conseil de l'exposition scientifique canadienne remet le prix à Verna Anne Thompson, lauréate de cette exposition (à gauche). Robert Paul Brunelle de High Prairie, Alberta, reçoit un prix analogue (à droite).





Les délégués qui ont représenté le Canada à l'assemblée générale de la Fédération dentaire internationale tenue à Vienne du 26 juin au 1er juillet. On remarque au 2e rang (de g. à dr.) Don W. Gullett de Toronto, James Zimmerman de Calgary et Gustave Ratté de Québec.

science, technologie et commerce. Vingt-quatre étudiantes peuvent y être admises chaque année.

Augmentation des tarifs des laboratoires dentaires en Ontario

Depuis le 15 juin, les prix des travaux des laboratoires dentaires de l'Ontario ont augmenté de 20 à 30 pour cent. L'Association des techniciens de laboratoire de l'Ontario explique que cette augmentation a été nécessitée par la hausse du coût du matériel de l'équipement et de la main-d'œuvre. C'est aussi en prévision de la loi des techniciens dentaires qui se prépare dans deux provinces de l'ouest, que l'on a songé à reviser la liste des tarifs.

Programme de retraite et taxation

Le récent amendement à l'Acte fédéral de l'Impôt sur le revenu comporte des modifications majeures relativement aux programmes d'épargne, tel que le plan de retraite de l'Association dentaire canadienne.

Le taux minimum de taxation applicable au retrait comptant que l'on pourrait faire de ces fonds de retraite a été réduit de 25 pour cent à 15 pour cent. Le montant non-imposable que l'on peut verser à ces plans de retraite a été porté de 10 pour cent à 20 pour cent du revenu.

L'amendement précise aussi que les contributions faites au Régime de pension du Canada et au plan de pension du Québec sont déductibles du revenu taxable, en plus des déductions normalement permises pour des plans d'épargne et de retraite enregistrés.

Chronique internationale

Le prix Dr Elmer S. Best va au Dr Williams

Lors d'une cérémonie qui se déroulait à l'ambassade des Etats-Unis à Ottawa, l'ambassadeur américain au Canada, l'Honorable W.W. Butterworth, a remis au docteur C.H.M. Williams de Toronto le prix Elmer S. Best de l'Académie Pierre Fauchard. Ce prix est remis chaque année pour souligner la valeur de travaux accomplis à l'extérieur des Etats-Unis.

Le docteur Williams est professeur agrégé et chef de département de périodontie à l'Université de Toronto. Il représente aussi l'Association dentaire canadienne à l'Institut national du cancer du Canada. Le Dr Williams est le premier canadien à recevoir le prix Best depuis sa fondation en 1961.

L'Académie Pierre Fauchard, fondée en 1936, a pour but de promouvoir le progrès technique et théorique de la science dentaire. L'Académie tient son nom du

célèbre dentiste parisien du XVIII^{ème} siècle que l'on considère comme le "père de la dentisterie moderne."

Un Norvégien, le Dr Gard, devient président de la F.D.I.

Au cours de la 53^{ème} réunion annuelle de la Fédération dentaire internationale tenue à Vienne du 26 juin au 3 juillet, le docteur Knut Gard de Norvège a été élu président de cette association. Les autres officiers sont: W. Stewart Ross d'Angleterre, président élu; L.-J. Baume de Suisse et R. Braun d'Allemagne, vice-présidents; et W. Brenner d'Autriche, conseiller. Ont été réélus: Harold Hillenbrand des Etats-Unis et P. O. Pedersen du Danemark, vice-présidents; Hans Freihofer de Suisse, orateur, et C. Gysel de Belgique, représentant légal belge. L'inscription totale était de 2,204 et provenait de 47 pays. Parmi les représentants canadiens, on notait Don W. Gullett de Toronto, Gustave Ratté de Québec et James Zimmerman de Calgary.

L'Assemblée générale a approuvé une résolution demandant que l'on déménage les quartiers généraux de la F.D.I. dans le nouvel édifice de la British Dental Association à Londres. Les autres mesures prises par l'Assemblée générale ont été:

Elire membre honoraire de la Fédération Don W. Gullett de Toronto, ancien secrétaire de l'A.D.C., et vice-président de la F.D.I.;

Décréter qu'à l'avenir, la participation aux réunions annuelles, à l'exclusion du Congrès international quinquennal, sera limitée aux membres et à leurs familles;

Porter à \$250.00 la cotisation de membre à vie, à partir de janvier 1967;

Accepter l'invitation de la Bulgarie de tenir la séance annuelle de 1968 à Sofia ou Varna;

Demander qu'un sous-comité conjoint des Commissions des Services de santé dentaire publique et de Recherche dentaire préparent une prise de position sur les méthodes susceptibles de remplacer la fluoruration de l'eau. Un tel document pourrait servir aux pays dont des régions importantes n'ont pas d'aqueduc.

Réunion des orthodontistes du nord-est à Montréal

Les orthodontistes de l'est du Canada et des Etats-Unis se rencontreront à Montréal du 24 au 26 octobre pour la 44^{ème} réunion annuelle de la Northeastern Society of Orthodontists. Les séances se tiendront à l'hôtel Sheraton Mont-Royal.

Festival international du Film médico-chirurgical et scientifique

L'Association nationale des médecins cinéastes et des cinéastes scientifiques de France organisera la 18^{ème} session du Festival international permanent du Film médico-chirurgical et scientifique, à la Faculté de Médecine de Paris, le 17 novembre 1965.

Congrès au Chili

On invite les dentistes du Canada à se rendre au 5^{ème} Congrès international de la Société odontologique du Chili à Santiago du 28 novembre au 4 décembre. Le programme est très varié et les communications traiteront de l'hygiène dentaire publique, de l'organisation de la profession dentaire, de même que des problèmes que peuvent entraîner les poursuites légales intentées contre un dentiste.

Pour plus amples informations, communiquer avec J. Pequeno, San Antonio 510, of. 504, Santiago, Chili.

Le congrès du Greater New York

Les nouveaux développements dans toutes les branches de la pratique dentaire feront l'objet de communications au 41^{ème} Congrès du Greater New York qui se tiendra à l'hôtel Statler Hilton de New York du 6 au 10 décembre. Ce congrès est sous les auspices des Sociétés dentaires des Premier et Second Districts de la ville de New York, sociétés elles-mêmes membres de l'Association des sociétés de l'Etat de New York.

Le programme de cette année comprend six séminars à inscriptions limitées de même qu'une série de conférences sur les

sujets les plus intéressants de la pratique dentaire.

Il y aura une séance spéciale sur l'emploi du 'boplant' en périodontie et en chirurgie buccale; on traitera des objectifs de la méthodologie et de la thérapeutique, le tout étant illustré de rapports de cas dans lesquels on a employé ce matériel. Parmi les cliniciens, on remarque H. M. Goldman de Boston, C. L. Nabers de San Antonio, Texas, et K. H. Thoma de Brookline, Massachusetts.

Earl Pound de Los Angeles exposera une philosophie de la prothèse dentaire complète, qui ouvre de larges horizons et permet de mieux satisfaire le patient et le dentiste.

Au cours des séminars sur la dentisterie restaurative, Rex Ingraham de Los Angeles intéressera l'omnipraticien en traitant d'un vaste choix de sujets allant de l'amalgame simple jusqu'à la reconstruction complète.

Parmi les autres séminaires, on remarque, en périodontie, Irving Glickman et H. M. Goldman, tous deux de Boston; en administration, J. H. Mosteller de Mobile, Alabama, et J. O. Wilson d'Atlanta, Georgia; en endodontie, Irving Abramson de Baltimore; en pédodontie, R. L. Lindahl de Chapel Hill, North Carolina.

Dans une conférence sur les recherches récentes, E. D. Goldsmith de New York, traitera du mécanisme de destruction des tissus durs. Collaboreront aussi à cette séance plusieurs autres chercheurs de différentes écoles dentaires, hôpitaux, de même que le National Institute of Dental Research.

Au programme, il y a aussi des travaux sur les nouveaux matériaux pour restauration, la conversation en dentisterie opératoire, les splints, les instruments de parallélisme, les piles antérieures, l'orthodontie pour adultes, l'articulation temporomandibulaire et la prothèse complète.

Un total de 30 cliniciens américains et étrangers participeront à la discussion des techniques restauratives, du plan de traitement et d'autres sujets intéressants.

Pour plus amples informations, communiquer avec Mme Mabel Purdy, secrétaire exécutive, Greater New York Dental Meeting, Room 106A, The Statler Hilton, New York, N.Y. 10001, E.-U.

Congrès jamaïquains en janvier 1966

On invite les dentistes canadiens à se rendre au prochain congrès national de l'Association dentaire de Jamaïque qui se tiendra à Kingston, Jamaïque, du 23 au 28 janvier 1966. Pour plus amples informations, s'adresser à C.W. Meeks, Case postale 19, Kingston 5, Jamaïque.

Résultats du programme de traitements néo-zélandais

Dans une communication présentée lors du congrès de l'American College of Dentists à San Francisco, Sir John Walsh, doyen de la Faculté de chirurgie dentaire de l'Université d'Otago, a décrit le programme néo-zélandais de traitements dentaires pour les enfants d'âge scolaire. Il a cité quelques statistiques. "Nos derniers rapports montrent qu'il y a 978 infirmières en service. Nous avons plus de 1,000 centres de traitements qui reçoivent environ un demi million d'enfants d'âge scolaire. En 1963, on a placé plus de 2,300,000 obturations. La proportion des dents extraites par rapport aux dents obturées est tombée de 73 pour cent en 1925 à 7.5 pour cent en 1945, et 3.6 pour cent en 1964 . . ."

"Je ne crois pas qu'un seul autre pays dans le monde entier traite mieux que nous ses enfants d'âge scolaire," a déclaré Sir John. "Malgré une forte incidence de caries, un nombre de plus en plus grand de jeunes gens atteignent l'âge adulte ayant leurs propres dents. En 1952, 29 pour cent des recrues militaires de 18 ans portaient ou avaient besoin de prothèses dentaires. Ce chiffre était déjà tombé à 11.4 pour cent en 1958." (Il était de 58 pour cent durant la seconde Grande Guerre.)

Dans un travail qu'il n'a pas encore publié, Beck a comparé l'état de santé dentaire des enfants de Nouvelle-Zélande et des Etats-Unis. Le taux DMF était à peu près le même dans les deux cas, mais le nombre de surfaces traitées était fort différent. En Nouvelle-Zélande, la proportion de dents obturées à DMF était de 82.8 pour cent, alors qu'aux Etats-Unis, seulement 38.4 pour cent des dents étaient obturées.

"Les progrès des mesures préventives

ont été moins rapides. La diète s'est améliorée légèrement depuis 50 ans. L'hygiène buccale est aussi améliorée mais ce sont les campagnes publicitaires des fabricants de dentifrices qui en sont responsables." Sir John a aussi déclaré que l'usage des fluorures comme mesure de prévention se répand rapidement en Nouvelle-Zélande. Aujourd'hui, 200,000 Néo-zélandais boivent de l'eau fluorée, et ce nombre augmentera bientôt de 800,000 à la suite de décisions prises par plusieurs municipalités. Environ 40 pour cent de la population boira donc de l'eau fluorée.

"De plus, . . . les infirmières sociales ont pris l'habitude de recommander aux jeunes mamans l'emploi de comprimés de fluor pour leurs enfants et pour elles-mêmes, ce qui permet d'atteindre la section de la population qui ne boit pas déjà de l'eau fluorée. On voit déjà les résultats de ce travail préventif. Le taux de carie chez les enfants de cinq ans qui entrent à l'école, est tombé de 8.5 pour cent en 1940 à 6.1 pour cent en 1960. Le rythme de progrès devrait s'accélérer de façon marquée dans les dix prochaines années," a déclaré Sir John.

Organismes dentaires

Neuf Canadiens au Collège international des dentistes

Neuf Canadiens ont reçu leur titre de fellow du Collège international des dentistes lors de la réunion de la section canadienne tenue à Québec le 29 mai. Les nouveaux fellows sont: Louis Bernier de Québec; Henri Brouillet et R. E. Daggs de Montréal; M.G. Boyes, C.H. Moses et W.W. Philp de Toronto; L.I. Duffy de Charlottetown; et W.P. Munsie de Vancouver. On a aussi conféré un fellow honoraire au docteur J. B. Macdonald, président de l'Université de la Colombie britannique.

Des invités étrangers assistaient à la réunion. Il y avait L.M. Ennis, président général du Collège international et F.A. Pierson, président de l'Association dentaire américaine.

Le Conseil de régence a nommé J.P. McGuigan d'Halifax président. Il succède au

docteur Gustave Ratté de Québec. On a aussi élu D.M. Tanner d'Ottawa, comme président-élu; T.H. Johns de Victoria, vice-président; H.R. Skilling de Toronto, trésorier; C.L. Strachan de London, rédacteur; et E.A. White de Toronto, secrétaire. C.M. Whitworth de Vancouver sera régent du District No 1, J.A. Sherman de Toronto, adjoint au régent pour le District No 5, et W.J. Johnston de Montréal, adjoint au régent pour le District No 6.

Réunion annuelle de la Société canadienne des orthodontistes

Quarante-cinq orthodontistes sont venus de tout le Canada assister à une réunion annuelle de la Société canadienne des orthodontistes, tenue à Québec du 30 mai au 2 juin. Cette réunion s'est déroulée conjointement avec le congrès de l'Association dentaire canadienne.

Le docteur H.I. Margolis de Boston a donné la conférence Mémorial George Wellington Grieve, traitant des responsabilités et privilèges de l'omnipraticien en orthodontie clinique. Le docteur Margolis a aussi donné une communication aux membres de la Société, "Contrôle de la croissance en orthodontie, grâce à l'appareil ACCO." Parmi les autres conférenciers, on remarquait le docteur Z. Mézl de l'Université de Montréal, "Les changements tissulaires au cours du traitement d'orthodontie;" le docteur R.A. Rocke du Kesling and Rock Group, de Westville, Indiana, "La technique Begg."

Le docteur W.O. Mulligan de Saint-Jean, Nouveau-Brunswick, a été élu président de la société. Le docteur R.D. Leuty de Toronto a été choisi comme président-élu; A.M. Hayes de Vancouver, vice-président; et J.J. Schachter de Saskatoon, secrétaire.

Le docteur Pelletier président de la Société du Saguenay

Gilles Pelletier de Mistassini vient d'être élu président de la Société dentaire du Saguenay. Léo Raymond de Chicoutimi en est le premier vice-président; Maurice Gagnon de Métabetchouan, deuxième

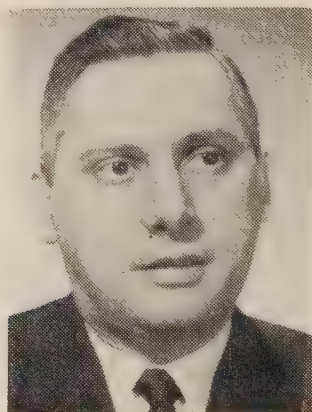
vice-président; Yvon Bergeron de Chicoutimi, secrétaire-trésorier.

Guy Tremblay d'Arvida et Michel Marchand de Kénogami ont été choisis comme délégués à l'Association dentaire de la province de Québec.

Le Dr Madore président de la Société dentaire de Montréal

Le docteur Claude Madore a été élu président de la Société dentaire de Montréal. Il succède à Jacques Fiset.

Le comité exécutif comprend en outre les docteurs François Cloutier, premier vice-président; Lucien Latour, deuxième vice-président; Jacques Casaubon, trésorier; Percy Génier, bibliothécaire; Jacques Fiset, aviseur; Gérard Lussier, secrétaire; et François Cardin, assistant-secrétaire.



Claude Madore

Les conseillers sont: Jacques Matteau, Jean-Claude Durand, Bernard Lamarche, Hubert Loiselle, Léon Daigle et Jacques Bégin.

Le Montreal Dental Club et l'A.D.C.

La réunion du mois de mai du Montreal Dental Club a été entièrement consacrée à l'étude de problèmes actuels d'ordre législatif et d'organisation auxquels la profession doit faire face.

Le docteur G.M. Dundass a fait une description du Bill 155 du Québec (Loi des techniciens dentaires). Cette loi a subi des modifications, mais ne définit pas encore d'une façon explicite le rôle que le dentiste est appelé à jouer dans la formation des techniciens.

Le docteur H.T. Oliver a commenté cer-

taines politiques de l'Association dentaire canadienne, relativement aux méthodes employées pour établir des échelles d'honoraires.

Le docteur J.M. Chamard a exposé les grandes lignes du mémoire que l'A.D.C. a préparé en réponse au rapport de la Commission royale d'enquête sur les services de santé.

Le docteur P.L. Samis a ensuite présidé à une discussion traitant des relations qui existent entre les organismes provinciaux et l'A.D.C. A la suite de cette discussion, on a adopté la résolution suivante: "Que le Collège des chirurgiens dentistes de la province de Québec revise le statut actuel des membres individuels de l'Association dentaire canadienne dans le but de rendre volontaire l'appartenance à cette association."

Plusieurs des membres présents ont émis l'opinion que, à cause de sa structure actuelle, l'A.D.C. ne répond pas aux besoins du praticien d'une façon satisfaisante.

Facultés dentaires canadiennes

Cours post-scolaires à l'Université de Toronto

L'Université de Toronto offrira les cours post-scolaires suivants pendant l'année 1965-66: dentisterie opératoire, du 25 au 27 octobre; couronnes et ponts, du 1er au 5 novembre; endodontie, du 16 au 18 février 1966; occlusion et correction d'occlusion, du 21 au 25 février 1966; périodontie, du 11 au 15 avril, 1966; orthodontie, du 18 au 22 avril 1966; administration, les 25 et 26 avril 1966; chirurgie buccale, du 2 au 6 mai 1966.

On offre aussi des cours préparant au certificat de spécialiste en hygiène dentaire publique, en chirurgie buccale, en anesthésie, en orthodontie, en pédodontie et en périodontie. Un cours spécial en anesthésie pour fins dentaires est aussi disponible.

Pour tout renseignement, s'adresser à la Division des Etudes post-graduées, Faculté de chirurgie dentaire, Université de Toronto, 124 rue Edward, Toronto 2, Ontario.

Economie

Grave manque de dentistes

Le Canada fait face à un grave manque de dentistes, écrit un sociologue dans un texte soumis à la Commission royale des services de santé, le 29 juillet. B. A. McFarlane, président du département de sociologie à l'Université Carleton d'Ottawa, dit que le Canada est en quatorzième place dans une étude faite sur le rapport dentiste — population dans 20 pays. La Suède a un dentiste par 1,500 habitants, les Etats-Unis un par 1,900, la Suisse un par 2,400 et la France un par 3,000. Le Canada a un dentiste par 3,108 habitants.

L'étude démontre aussi une distribution inadéquate et inégale de dentistes à travers le pays et les provinces.

"Par exemple, l'Ontario qui est la province la plus peuplée et la plus prospère, a des régions rurales où l'on ne trouve qu'un dentiste pour 20,892 personnes," dit le rapport.

Il ajoute: "Si le rapport dentiste—population est employé comme index de la disponibilité des services dentaires, on peut dire que les régions rurales sont bien pauvrement servies." Suggérant des moyens pour augmenter le nombre de dentistes canadiens, le Dr McFarlane fait remarquer que l'immigration a augmenté le nombre de praticiens dans la plupart des professions, sauf en art dentaire. "Après une courte période d'attente, la plupart des professionnels et hommes de science formés en Europe et en Angleterre sont éligibles à pratiquer leur profession ou à enseigner dans les universités canadiennes. Au contraire, leurs collègues en art dentaire doivent retourner au rang d'étudiants."

Le Dr McFarlane fait aussi remarquer qu'il devrait y avoir plus de femmes dentistes, plus d'auxiliaires pour libérer le dentiste de son travail de routine, et que la fluoruration des eaux d'aqueduc devrait être obligatoire.

Il faudrait prendre des dispositions légales afin de rendre obligatoire la fluoruration des eaux d'aqueduc, suggère le docteur McFarlane.

Honoraires moyens pour 1963

La moyenne des honoraires établie à la suite de l'enquête sur les services dentaires pour 1963 est la suivante:

Prophylaxie (détartrage supra-gingival et polissage) \$5.78;

Obturation de deux surfaces en amalgame \$6.45;

Obturation de silicate ou de résine \$5.83;

Extraction unique (sous anesthésie locale et sans complication) \$4.91;

Incrustation d'or deux surfaces \$27.64;

Prothèse complète du haut \$82.84.

Le rapport complet du Bureau de recherches économiques de l'A.D.C. publiera les honoraires en les classant par province, en tenant compte de l'importance de la ville, de l'âge du praticien, etc.

Le revenu des dentistes au 4ème rang

Le revenu des dentistes se trouve au 4ème rang dans les statistiques de taxation de 1963 (*Statistique fiscale*), qu'a publiées le gouvernement fédéral.

Les cinq plus hauts revenus pour 1963 sont: médecins et chirurgiens \$19,433.00; avocats et notaires \$16,283.00; ingénieurs et architectes \$14,989.00; dentistes \$13,679.00; comptables \$10,994.00. Le revenu moyen de tous les contribuables est \$4,550.00.

Nouvelle liste d'honoraires au Québec

Le Conseil des Gouverneurs du Collège des chirurgiens dentistes de la province de Québec a approuvé une nouvelle liste d'honoraires. Cette liste a été préparée par un comité que présidait le docteur Conrad Godin de Trois-Rivières. Ce comité avait au préalable fait une étude détaillée de tous les aspects des honoraires dentaires. Il avait pour cela rencontré un grand nombre de dentistes du Québec et d'ailleurs.

Cette nouvelle liste d'honoraires est conforme au système de valeur relative qu'a approuvé le Conseil des Gouverneurs de l'Association dentaire canadienne en mai dernier.

Chacun des dentistes du Québec recevra bientôt son exemplaire de cette liste.

Staddon acquière l'agence des plans d'assurance que recommande l'A.D.C.

Le Conseil des Gouverneurs de l'A.D.C. annonce que M. J.T. Staddon a acheté la firme Professional and Industrial Pensions Limited, qui appartenait anciennement à la Beacon Insurance Company. P.I.P.L. est l'agence qui administre les programmes d'assurance et de retraite que recommande l'A.D.C. Monsieur Staddon fait partie de P.I.P.L. depuis plus de 10 ans et s'occupe d'assurance depuis plus de 30 ans.

Corps dentaire royal canadien

Le brigadier Baird à Québec

Le brigadier K.M. Baird, directeur général des services dentaires des forces armées canadiennes, s'est rendu à Québec du 25 au 29 mai 1965 pour prendre part à la réunion annuelle du Conseil des Gouverneurs de l'Association dentaire canadienne.

Le colonel Millar au congrès de la Fédération dentaire internationale

Le colonel I.A.L. Millar, directeur adjoint des Services dentaires des forces armées canadiennes, a conduit les cadets officiers dans une visite des installations de la Division de l'Air No 1, du C.A.R.C., en Europe, du 10 au 25 juin. Le colonel Millar s'est ensuite rendu à Vienne, où il a fait, au 53ème congrès de la Fédération dentaire internationale, une communication traitant de la formation d'équipes dentaires militaires.

Le colonel Kearney au congrès de l'ouest du Canada

Le colonel B.P. Kearney a représenté le directeur général des services dentaires au congrès de la Société dentaire de

l'ouest du Canada, à Banff, Alberta, du 16 au 19 juin.

Le lieutenant-colonel Craigie visite le camp Gagetown

Du 17 au 20 juillet 1965, le lieutenant-colonel L. G. Craigie, qui représentait le brigadier K. M. Baird, directeur général des services dentaires des forces armées du Canada, a assisté aux grandes manœuvres militaires d'été du Camp Gagetown, Nouveau-Brunswick.

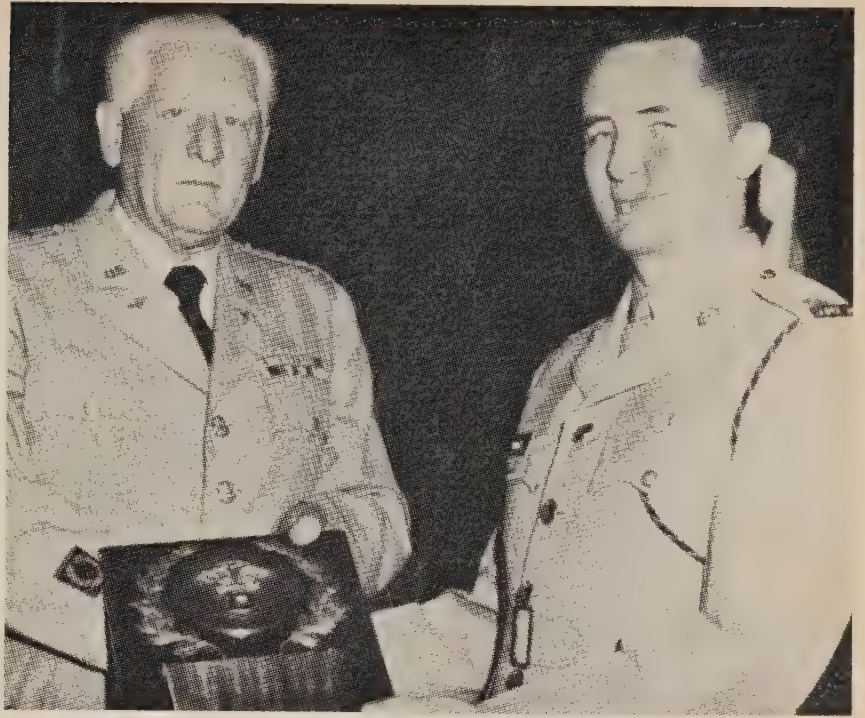
Retraite du colonel Leman



Le colonel
A. C. Leman

Le colonel A.C. Leman, C.D., consultant senior au Corps dentaire canadien, a pris sa retraite en juin. Natif de Toronto, le colonel Leman a reçu son diplôme de l'Université de Toronto en 1938. Il a pratiqué à Toronto jusqu'à ce qu'il devienne membre du Corps dentaire royal canadien, au printemps 1940. Le colonel Leman a servi au Royaume-Uni et en Europe du nord-ouest de 1942 à 1945. De retour au Canada en août 1945, il s'est remis à la pratique privée à Toronto, pour s'enrôler de nouveau en août 1947. Le colonel Leman a servi à travers tout le Canada et l'Europe. Nommé officier de l'Unité dentaire No 35, 1ère division de l'Air, C.A.R.C., Europe, en 1955, il passa à la Compagnie dentaire No 13 du C.A.R.C., Trenton, Ontario, de 1959 à 1963. Le colonel Leman a terminé sa carrière militaire à titre de consultant senior pour le Corps dentaire royal canadien au Directeurat des services dentaires des forces armées canadiennes à Ottawa. Le colonel

Un Canadien, le major J. J. N. Wright (à dr.) reçoit du major général J. L. Bernier, chef du U.S. Army Dental Corps, le prix de 'meilleur élève de l'année.' Le major Wright a remporté ce prix à la suite d'un cours de 10 mois sur "L'étude théorique et scientifique avancée de l'art dentaire" qu'il a suivi l'an dernier à l'Institut de recherche dentaire du Walter Reed Army Medical Centre de Washington. Le major Wright se trouve maintenant au département de périodontie du Centre Reed à titre d'observateur.



Leman se propose de s'établir avec sa famille à London, Ontario.

Succès d'un officier canadien aux Etats-Unis

Le major J.J.N. Wright de Exshaw, Alberta, a reçu un certificat honorifique du U.S. Army Dental Corps pour avoir obtenu les meilleurs résultats académiques lors d'un cours de 10 mois suivi au U.S. Army Institute of Dental Research du Walter Reed Army Medical Center à Washington (D.C.). Du mois d'août 1964 au mois de juin 1965, le major Wright a suivi un cours en "Etude théorique et scientifique de l'art dentaire."

Promotion de trois officiers

On annonce les promotions suivantes: le **lieutenant-colonel G.C. Evans** devient colonel, le **major A.W. Brusso** devient lieutenant-colonel, et le **capitaine Y. Kamachi** devient major.

Le colonel Evans est originaire du sud de l'Alberta. Gradué de l'Université d'Alberta en 1944, il s'est enrôlé dans le Corps dentaire canadien et a servi dans le C.A.R.C. sur la côte ouest jusqu'à son

licenciement en juillet 1946. Ré-enrôlé en 1947 dans le Corps dentaire canadien, il a servi dans la Marine royale canadienne à terre et sur mer, dans la 25ème Unité dentaire canadienne en Corée, de même qu'à l'Ecole du Corps dentaire royal canadien où il est devenu chef de clinique. En juillet 1960 le colonel Evans partit pour trois ans pour servir d'officier à la 4ème Compagnie dentaire en Allemagne. De retour au Canada, il a travaillé au Directeurat dentaire du quartier général des forces canadiennes à Ottawa. Le colonel Evans sera maintenant officier de la 11ème Compagnie du Corps dentaire canadien dont les quartiers généraux sont à Edmonton.

Le lieutenant-colonel Brusso de Didsbury, Alberta, s'est enrôlé en juin 1940. Durant la seconde grande guerre, il a servi outre-mer, au Royaume-Uni, en Afrique du Nord, en Italie et en Europe de l'ouest. Depuis la guerre, il a été quartier-maître dans plusieurs compagnies dentaires, et officier du dépôt d'équipement dentaire No 1. Depuis 1960, il sert au Directeurat d'Ottawa.

Le major Kamachi de New Westminster, Colombie britannique, est un diplômé de la classe 1960 de l'Université Dalhousie, Halifax. D'abord affecté à la 11ème compagnie dentaire à Edmonton, il est main-

tenant à l'Unité dentaire No 35 de la division No 1 du C.A.R.C. en Europe.

Visite d'un officier australien

Du 5 au 9 juin, le lieutenant M.H. Dowsett, officier dentaire de la Marine royale australienne, a visité le Directeurat dentaire, à Ottawa et l'Ecole du corps dentaire royal canadien, au camp Borden, Ontario. Le lieutenant Dowsett regagnait l'Australie, après 15 mois passés en Angleterre.

Six officiers quittent le Corps dentaire

Ayant complété leurs cinq années de service avec le Corps dentaire royal canadien, les officiers suivants ont pris leur congé le 31 mai 1965: le capitaine W.T.H. Harley de Camp Sarcee, Calgary, Alberta; le capitaine J.G.B. Parent, R.C.A.F. Station, Goose Bay, Labrador; le capitaine A.B. Perkin, Collège royal militaire, Kingston, Ontario; et le capitaine J. Vincent des quartiers généraux du Québec, Montréal.

Les capitaines W.J. Froese des quartiers généraux du Camp Petewawa, Ontario, et V.D. Kvedaras du quartier général de la Compagnie dentaire No 13, à Trenton, Ontario, ayant terminé leur engagement avec le Corps dentaire canadien ont été licenciés le 1er juin.

Décès du colonel Drewry, ancien adjoint au directeur général des services dentaires

F. R. Drewry, ancien adjoint au directeur général des services dentaires, est décédé le 20 juin à sa résidence de Cobourg, Ontario. Né à Warkworth, Ontario, le colonel Drewry était membre du Royal College of Dental Surgeons of Ontario et a exercé sa profession à Cobourg jusqu'en 1940, alors qu'il s'enrôla dans le Corps dentaire canadien, ce qui lui donna l'occasion de travailler outre-mer avec le C.A.R.C. Promu lieutenant-colonel en juillet 1942, il revint au Canada quelques mois plus tard pour prendre le com-

mandement de la 40ème Compagnie du Corps dentaire canadien.

A l'occasion de la formation des Forces régulières de temps de paix en octobre 1946, le colonel Drewry devint commandant de la 11ème Compagnie dentaire du Corps dentaire royal canadien, dont le quartier général est situé à Edmonton. Il devint plus tard commandant de la 13ème Compagnie à Trenton, Ontario et en mai 1953, il fut nommé adjoint au directeur général des services dentaires et promu au rang de colonel. Le colonel Drewry détint ce poste jusqu'à sa retraite, en octobre 1956.

Hygiène publique

Réunion du Comité de santé dentaire à Ottawa

C'est en mai, à Ottawa, que s'est réuni pour la première fois le Comité de santé dentaire du Ministère de la santé nationale et du bien-être social. Ce comité, créé récemment par le Gouverneur général en Conseil, a pour but de conseiller et d'aviser le Ministre de la santé nationale et du bien-être social en ce qui concerne la santé dentaire au Canada (voir Actualités dentaires, p. 266, avril 1965). Le président de ce comité est R. A. Connor, chef au ministère de la division de l'hygiène dentaire.

Fluoration

Quatre millions de Canadiens boivent de l'eau fluorée

Selon les déclarations de l'A.D.C. faites lors de la dernière réunion annuelle, plus de quatre millions de Canadiens vivant dans environ 250 municipalités, bénéficient de l'eau fluorée. Comme il l'a déjà fait en 1953, le Conseil des Gouverneurs de l'A.D.C. a adopté une résolution appuyant le principe de la fluoration de l'eau, invitant le peuple canadien à appuyer cette mesure.

En 1964, 29 centres se sont intéressés à vérifier le contenu en fluor de leur eau

de consommation et sur 29 plébiscistes, 14 ont approuvé la fluoration. Le plébisciste le plus significatif a été celui fait à Ottawa où deux années plus tôt, la fluoration avait été rejetée.

Le rapport de l'A.D.C. démontre que 63 pour cent des Canadiens qui emploient de l'eau fluorée, vivent en Ontario. Seulement 39 pour cent des Ontariens vivent dans des régions où l'eau est fluorée, comparé à 58 pour cent au Manitoba. 21 pour cent des Canadiens vivent dans des centres où l'eau est fluorée, tandis qu'aux Etats-Unis, le chiffre est de 32 pour cent.

Ottawa fluorera son eau potable en octobre

Un fonctionnaire de la Ligue de la santé du Canada a révélé que la fluoration commencerait le 15 octobre dans la capitale. Le système d'aqueduc d'Ottawa dessert 320,000 habitants répartis dans les villes d'Ottawa, Eastview, Rockcliffe Park et une partie des communes de Nepean et Gloucester.

Belleville, située sur le lac Ontario, s'attend à commencer la fluoration tôt cet automne. Elle fournit l'eau à 32,000 résidents, dont 100 personnes dans la commune voisine de Sidney.

Palmarès



Gérard de Montigny

Le 31 mai dernier, à Québec, le docteur **Gérard de Montigny** de Montréal était à l'honneur. L'ancien président, le docteur Rémy Langlois lui a remis un plateau en argent en remerciement des 18 années

pendant lesquelles il a été rédacteur de la section française du *Journal de l'Association dentaire canadienne*. Le docteur de Montigny a quitté ce poste l'an dernier après avoir accepté d'importantes responsabilités à la Faculté de chirurgie dentaire de l'Université de Montréal.

Pierre-Paul Giroux de l'Université de Montréal, et **J. F. Giacomelli** de l'Université McGill, ont mérité les prix du Collège des chirurgiens dentistes de la province de Québec, pour avoir maintenu les meilleures notes durant les quatre années de leur cours dans leurs facultés dentaires respectives.

Les docteurs Giroux et Giacomelli ont aussi remporté les prix J. K. Carver attribués à ceux qui ont obtenu les meilleures notes dans l'examen pratique au cours des examens du Collège de la province de Québec.

Adjutor Jinchereau de Québec, **Alexandre Mélady** de Ste-Marie de Beauce, et **Aquilas Picard** de Montréal, ont été nommés membres honoraires du Collège des chirurgiens dentistes de la province de Québec, ayant tous les trois exercé leur profession sans interruption pendant 50 ans.

A l'occasion de la 42ème réunion annuelle de l'American Association of Dental Schools tenue à Toronto le 26 juillet, le docteur **Don W. Gullett**, ancien secrétaire de l'Association dentaire canadienne, a été nommé membre honoraire de cette association.

P. G. Anderson, professeur de dentisterie opératoire et chef de clinique à la Faculté de chirurgie dentaire de l'Université de Toronto, s'est mérité un des trois prix de journalisme de l'American Association of Dental Schools. Les prix, au total de \$1,000.00, sont offerts chaque année par le Columbia Dentoform Corporation de New York, et couronnent des contributions originales importantes aux revues d'éducation dentaire. Les prix de cette année ont été attribués à trois articles publiés dans le *Journal of Dental Education* en 1964.

The Association

New Pamphlets Publicize Prepayment and Retirement Plans

Two new pamphlets—one on dental prepayment plans, the other describing retirement savings plans—may be obtained from Canadian Dental Association headquarters.

The "Policy Statement on Dental Prepayment" outlines Association policy on this subject adopted at the 1964 annual meeting of the Board of Governors. This statement was also published in English and in French in the October 1964 Journal.

The "Canadian Dental Association Retirement Savings Plan" pamphlet describes the three funds (government bond, corporate bond and common stock) available under the plan, tax advantages of a registered plan, and other details of investment management and administration.

New C.D.A. Directory Available

Copies of the new 1965 *Directory* of the Canadian Dental Association are now available and may be procured by writing to the Deputy Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5, Ontario. Price per copy is \$2.

Canada and the Provinces

Tax Changes for Retirement Plans

A recent amendment to the federal In-

come Tax Act includes major changes concerning retirement savings plans such as the Canadian Dental Association Retirement Savings Plan.

The minimum income tax rate applicable to cash withdrawals from CDARSP has been reduced from 25 per cent to 15 per cent. Allowable contributions to such plans are increased from 10 per cent to 20 per cent of earned income applicable to 1965 and subsequent years.

The amending act also confirmed that contributions to the Canada Pension Plan and the Quebec Pension Plan are deductible from taxable income in addition to deductions currently allowed for registered pension and retirement savings plans.

International Items

Hospital Dental Chiefs Meet in Las Vegas, Nov. 6

The American Association of Hospital Dental Chiefs will hold its fifth annual meeting at the Flamingo Hotel, Las Vegas, on November 6, preceding the annual session of the American Dental Association.

Featured speakers and their topics include Mark Berke, Mt. Zion Hospital and Medical Center, San Francisco, "Hospital Dentistry as Viewed by the Hospital Administrator;" and Reginald Sullens, secretary of the American Association of Dental Schools, Chicago, "Hospital Dentistry as Viewed by the Dental Educator."

For further information write to I. E. Gruber, secretary, American Association of Hospital Dental Chiefs, 100 South Grand Avenue, Baldwin, New York 11510, U.S.A.

Dentistry for Handicapped Group to Meet in Las Vegas Nov. 6-7

The Academy of Dentistry for the Handicapped has planned a meeting at the Star Dust Hotel, Las Vegas, Nevada, November 6-7 in conjunction with the American Society of Dentistry for Children.

S. R. Gelmon of Saskatoon is Academy president. Further information may be obtained from R. T. Kirk, secretary-treasurer, P.O. Box 213, Springfield, Ohio, U.S.A.

Growth Seminar in New York Nov. 18-19

A seminar on growth will be held at the Hotel Americana in New York City November 18-19, sponsored by the Northeast Section of the Loyola Jarabak Foundation Study Group.

Program participants are J. R. Jarabak of Loyola University School of Dentistry, Chicago; R. E. Moyers of the University of Michigan; and W. M. Krogman of Columbia University.

Further information may be obtained from Samuel Weinstock, 105 Stevens Avenue, Mount Vernon, New York, U.S.A.

Detroit Convention Slated for Nov. 21-23

The Detroit District Dental Society has invited Canadian dentists to attend its 24th Annual Dental Review November 21-23 at the Statler-Hilton Hotel in Detroit.

Further information about the program may be obtained from Mrs. Helen Allen, executive secretary, Detroit District Dental Society, 319 Fisher Building, Detroit, Michigan 48202, U.S.A.

Jamaica Meeting Date Advanced

Word has been received that the date for the national convention of the Jamaica Dental Association has been advanced to January 23-28, 1966.

The February 20-24 date (previously listed on page 476 of the July Journal) had to be changed, convention committee secretary C. W. Meeks has announced.

Dental Organizations

Nfld. Society Elects O'Driscoll

W. J. O'Driscoll was elected president of the Newfoundland Dental Society on August 11 immediately preceding the Atlantic Provinces Dental Convention. The island society was host for this year's convention in St. John's August 12-14, the first ever held in Newfoundland.

Other society executive members elected were B. L. Bowden, first vice-president; D. A. Hollett, treasurer; R. V. Winsor, secretary; and K. F. Walsh, assistant secretary. R. A. Downton is the immediate past president.

Canadian Dental Association President P. S. Christie and Secretary W. G. McIntosh attended the Atlantic convention. Clinicians included S. A. McGregor of Toronto, H. T. Oliver and J. J. McCarthy of Montreal.

Atlantic Orthodontists Meet in Nfld.

Orthodontists from the four Atlantic provinces met in St. John's, Newfoundland August 12-14 while the island capital played host to this year's Atlantic Provinces Dental Convention. Present were all the members of the Atlantic Orthodontic Society as well as guests from as far afield as Montreal and Falls Church, Virginia.

H. T. Oliver, consulting orthodontist to the Montreal Children's Hospital, discussed the treatment of cleft palate. He described and illustrated impression techniques for palatal moulding appliances in newborn infants.

Current cephalometric interpretation techniques were reviewed by W. O. Mulligan of Saint John, New Brunswick. Dr. Mulligan emphasized the Steiner analysis as employed at Columbia University in New York City.

New Graduates Licensed in Quebec

Fifty-three new graduates—36 from the Université de Montréal and 17 from Mc-



Saskatoon Star-Phoenix

Recipients of honorary life memberships in the Saskatoon Dental Society are E. B. Nagle (centre l.) and R. L. Toren (centre r.). The presentations were made by D. I. Neuman (l.) and A. Singer (r.).

Gill University — received their licences following a meeting of the Quebec Board of Dental Surgery June 21.

Welcoming the new practitioners were President Henri Brouillet of the College of Dental Surgeons of the Province of Quebec and A. W. Oliver of Montreal. College Registrar R. M. Le Blanc administered the oath to each registrant.

Nine dentists have also re-registered with the Quebec College since last year. Fifteen resigned and three died during the same period.

Saguenay Society Elects Dr. Pelletier

Gilles Pelletier of Mistassini, P. Quebec, was recently elected president of the Saguenay Dental Society. Named with Dr. Pelletier were Léo Raymond of Chicoutimi, first vice-president; Maurice Gagnon of Metabetchouan, second vice-president; and Yvon Bergeron of Chicoutimi, secretary-treasurer.

Appointed as delegates to the Dental Association of the Province of Quebec were Guy Tremblay, Arvida, and Michel Marchand, Kenogami.

Montreal Société Installs Dr. Madore

Claude Madore has been installed as new president of the Société Dentaire de Montréal. He succeeds Jacques Fiset.

Other members of the executive are:

François Cloutier, first vice-president; Lucien Latour, second vice-president; Jacques Casaubon, treasurer; Percy Génier, archivist; Jacques Fiset, adviser; Gérard Lussier, secretary; and François Cardin, assistant secretary.

Named as counsellors were Jacques Matteau, Jean-Claude Durand, Bernard Lamarche, Hubert Loiselle, Léon Daigle, and Jacques Bégin.

Dr. Epstein Chosen Saskatoon President

At a meeting in June L. Epstein was installed as president of the Saskatoon Dental Society. He succeeds J. W. MacKay. Also elected were A. J. Daley, vice-president, and F. A. Fernet, program chairman. G. H. Peacock continues as secretary-treasurer for another year.

Highlighting the previous year's meetings was the night set aside to honour Saskatoon practitioners E. B. Nagle and R. L. Toren. Both received honorary memberships from the dental society. Dr. Nagle has spent 47 years in Saskatoon. Dr. Toren has practised in the city for 50 years.

February 24, another important date for the society, was the occasion for the annual Canadian Dental Association presidential visit. This year Past President Rémy Langlois, Quebec City, and C.D.A. Secretary W. G. McIntosh, Toronto, were the visitors. Their visit was much appreciated by Saskatoon dentists.

Canadian Hygienists Elect

Dixie Scoles of the School of Dental Hygiene, University of Manitoba, Winnipeg, was elected president of the Canadian Dental Hygienists' Association at the group's annual meeting in Quebec City in June. Louise Pollard, Edmonton, is secretary.

Canadian Dental Schools

Drs. Marshall and Marsh Leave Manitoba U.

Two University of Manitoba dental teachers have resigned from Winnipeg's dental school.

F. J. Marshall, associate professor of endodontology, went to the University of Pittsburgh at the beginning of September where he has taken a position as associate professor of dentistry.

T. L. Marsh, associate professor of dental public health, left on July 1 to become associate director of the Dental Health Division, Department of National Health and Welfare, Ottawa.

British Researcher Visits Manitoba Faculty

David Ferguson of Newcastle-upon-Tyne, England, was a recent visitor to the Faculty of Dentistry, University of Manitoba. Dr. Ferguson, who is travelling in North America on a Nuffield Foundation fellowship, spent two weeks in the Biochemistry Section of Manitoba's Department of Oral Biology. He studied microchemical techniques employed there and also gave a seminar on some of his own research on human salivary proteins.

Manitobans at Toronto Research and Schools Meetings

The University of Manitoba was well represented at the recent Toronto meetings of the International Association for Den-

tal Research (July 22-25) and the American Association of Dental Schools (July 25-28).

Four instructors—Colin Dawes, C. M. Dowse, Israel Kleinberg and E. T. Pritchard—and four graduate students presented scientific papers at the IADR sessions.

At the AADS meeting C. M. Dowse discussed laboratory instruction for teaching biological sciences. Dean J. W. Neilson presided at one of the general sessions, and Librarian Doris Pritchard presided at a conference session on dental libraries.

Royal Canadian Dental Corps

Student Officers Complete Summer Training

Undergraduate officers of the Third Practical Phase Training completed their summer training with a graduation parade on August 5 at Camp Borden, Ontario. The parade was held at the Royal Canadian Dental Corps School and also included officer cadets of the Second Practical Phase.

Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces, took the salute during the march-past. During the evening a mess dinner was held at the Canadian Forces Medical Service Training Centre, Camp Borden, to honour these future dental officers of the Royal Canadian Dental Corps on their departure to their universities to resume academic training.

The following awards were presented for proficiency in practical phase training:

First Phase Honour Cadet—at the Royal Canadian School of Infantry—was Officer Cadet D. J. Morrow, University of Manitoba;

Second Phase Honour Cadet — at the R.C.D.C. School—was Officer Cadet H. A. Pankratz, University of Manitoba;

Runner-up for Second Phase was Officer Cadet T. J. Erskine, University of Alberta;

Third Phase Honour Cadet — at the R.C.D.C. School—was Scd. Lt. J. F. Stansfield, University of Toronto;

Runner-up for Third Phase was Scd. Lt. H. M. Amos, Dalhousie University.

Winner of the Chief Instructor's Trophy for Third Phase Practical Training was Scd. Lt. J. W. Bergerman, University of Manitoba.

Col. Craigie Promoted

Canadian Forces Headquarters recently announced the promotion of Lt.-Col. L. G. Craigie to colonel. Col. Craigie was born in Kamsack, Saskatchewan. On graduation from the University of Toronto in 1943 he was commissioned in the Canadian Dental Corps and served in various locations until demobilized in 1946. He began private practice in 1946 but re-enlisted with the Royal Canadian Dental Corps in 1948. In 1956 he joined the instructional staff at the R.C.D.C. School, Camp Borden, Ontario, where he served for five years. In 1961 he was appointed commanding officer, No. 35 Field Dental Unit, No. 1 Air Division R.C.A.F., Europe. On his return to Canada in the summer of 1964 he was employed in the office of the Director General of Dental Services at Ottawa. He is now senior consultant for the Royal Canadian Dental Corps.

Maj. Chatwin Attends P.H. Course

Maj. J. V. P. Chatwin who was stationed the last three years with No. 4 Field Dental Company, No. 4 Canadian Infantry Brigade Group, Europe, is attending the course in dental public health at the School of Hygiene and the Faculty of Dentistry, University of Toronto.

Preventive Dentistry Workshop

Lt.-Col. D. H. Protheroe, chief instructor at the R.C.D.C. School, Camp Borden, Ontario, represented the Director General of Dental Services at the Workshop on Preventive Dentistry held August 10-12 at Walter Reed Army Medical Centre in Washington. The purpose of the meeting was to promote greater application of

preventive concepts and methods in oral health care.

Captains Paturel and McFarlane to Europe

Captains **R. J. Paturel**, H.M.C.S. Shearwater, Dartmouth, Nova Scotia, and **N. A. McFarlane**, No. 6 Repair Depot, R.C.A.F. Station, Trenton, Ontario, have been posted to No. 4 Field Dental Company, No. 4 Canadian Infantry Brigade Group, Europe.

Economics

Dentists Fourth Highest Income Earners

Dentists ranked fourth in average income again in 1963, according to Taxation Statistics published by the federal government.

Average figures of the top five groups in 1963 were: physicians and surgeons \$19,433; lawyers and notaries \$16,283; engineers and architects \$14,989; dentists \$13,679; accountants \$10,994. Average income of all taxpayers was \$4,550.

Staddon Buys Agency for C.D.A. Recommended Pension and Insurance Plans

As announced to the recent C.D.A. Board of Governors' meeting, Mr. J. T. Staddon has purchased Professional and Industrial Pensions Limited from the Beacon Insurance Company. PIPL is the administrative agency for insurance and retirement plans recommended by the Canadian Dental Association for its members. Mr. Staddon has been associated with PIPL for over 10 years and has spent 30 years in the insurance field.

Saskatchewan Loans for Dentists

British dentists who pass provincial licensing examinations before emigrating to Saskatchewan will be eligible for a provincial government loan if they agree

to stay in the province for at least two years.

Thirteen candidates have so far written the required papers in Britain. Those who passed were eligible to take the clinical examinations, also in Britain. Two clinical examiners were flown to Britain for the purpose.

Successful dentists will also qualify for the government assisted passage grants designed to help alleviate the shortage of professional people in the province. The assisted passage grants do not require repayment of money.

Alberta Dental Scheme Proposed

Alberta's dentists hope to start a prepaid co-insurance program of dental care for low income families next year. Details of the plan were revealed following a three hour panel discussion on dental health insurance at the Western Canada Dental Society convention in Banff, Alberta, June 17.

The plan would initially involve government-subsidized insurance for about 40,000 children of marginal income families and could eventually cover up to 340,000 persons.

Already administrative machinery in a dentist-sponsored Alberta dental service corporation exists to administer this first proposed entry into dental insurance in Alberta.

The proposed plan would operate in a scheme parallel to the Alberta medicare plan. The dentists expect from 50 to 75 per cent utilization of the plan by policy holders initially.

Once the plan is operating, major employee groups will probably be allowed to join if suitable arrangements can be made. Another extension could be through postpayment facilities for those not able to pay total costs for dental care in one lump sum.

The biggest problem will be staffing rural areas. The province's dentists hope to overcome this if the government agrees to supply bursaries to dental students in exchange for a rotating system of residencies.

New Fee Schedule in Ontario

A new fee schedule has been published by the Ontario Dental Association. Based on the Canadian Dental Association's reference list of dental services (C.D.A. *Transactions* 1964), the new Ontario fee schedule is intended to assist new graduates. It can also help practitioners determine fees for operations which are only infrequently performed. The schedule will also be a valuable guide to insurance companies as further dental prepayment plans emerge.

In the words of the preamble, the schedule "represents fair charges to persons of average means for dental services requiring average ability, skill and responsibility." Dentists can therefore adjust their fees upward or downward according to the time, skill, responsibility, or other unusual circumstances inherent to the service or where a regular fee is a financial hardship to the patient.

The preamble also suggests that fees be adjusted when multiple or repeated operations are performed at one appointment.

Receipts should be issued for all payments received and records kept so that itemized statements can be issued on request.

Welfare Group Requests Dental Aid in Ontario

A resolution calling for a universal dental care program was one of the topics considered by 700 delegates from all parts of the province who attended 67th annual meeting of the Ontario Municipal Association in Toronto August 23.

The dental care resolution, submitted by the York County Welfare Officers' Association, asked the Ontario government to provide adequate dental care to dependent children of welfare recipients, and to urge adoption of a universal dental care program as soon as possible.

The plan envisioned would eventually come under the public medicare scheme proposed by the federal government on July 19, a spokesman explained.

Quebec College Approves New Fee Scale

A new schedule of fees has been approved by the Board of Governors of the College of Dental Surgeons of the Province of Quebec. The schedule was prepared by a small steering committee headed by Conrad Godin of Trois-Rivières. Committee members made a searching investigation of all aspects of dental fees, including many interviews with dentists within and outside Quebec.

This latest schedule is based on the relative value system approved by the Canadian Dental Association's Board of Governors last May.

Copies of the new fee scale will be distributed to all Quebec dentists.

Public Health

Advisory Dental Committee Meets in Ottawa

The first meeting of the recently established Advisory Committee on Dental Health of the Department of National Health and Welfare was held in Ottawa during May. The committee, established by the Governor-General in Council, is to advise and assist the Minister of National Health and Welfare in connection with dental health in Canada (see page 264 of the April Journal). The chairman of the committee is R. A. Connor, chief of the department's Dental Health Division.

Dr. Marsh to Ottawa

T. L. Marsh of Winnipeg has been appointed associate director (consultant in public health dental research) in the Dental Health Division, Department of National Health and Welfare, Ottawa. His duties began July 1.

During the last four years Dr. Marsh served as associate professor of dental public health at the University of Manitoba, Winnipeg. He was also a regional

dental officer with the Manitoba health department. Before going to Manitoba, Dr. Marsh served as a dental public health officer in the Royal Canadian Dental Corps.

Awards and Honours

Former Canadian Dental Association Secretary **Don W. Gullett** of Toronto received an honorary membership in the American Association of Dental Schools at the organization's 42nd annual meeting in Toronto July 26.

College of Dental Surgeons of the Province of Quebec prizes went to **Pierre-Paul Giroux**, Université de Montréal, and **J. F. Giacomelli**, McGill University, for highest academic standing during the four year undergraduate course at their respective schools.

Doctors Giroux and Giacomelli also shared the J. K. Carver Prize awarded for highest achievement in the practical portion of the Quebec licensing examinations.

E. B. Nagle and **R. L. Toren**, two veteran Saskatoon practitioners, were recently awarded honorary life memberships by the Saskatoon Dental Society.

P. G. Anderson, professor of operative dentistry and director of the Faculty Clinic, University of Toronto, received one of three editorial awards from the American Association of Dental Schools at the AADS annual session in Toronto, July 25-28. The awards, totalling \$1,000, are sponsored by the Columbia Dentoform Corporation of New York. They are presented annually for outstanding original contributions to dental education literature. This year's awards were made for articles published in the *Journal of Dental Education* during 1964.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Relative Value Fee Method

To the Editor:

The relative value fee method approved by the Canadian Dental Association at the annual meeting, 1965, and announced in the July 1965 *Bulletin*, is based on the assumption that a simple multiple or scalar value is adequate as a conversion factor for different variables. In plain English, it attempts to relate things which are basically unrelated, or, if related, are not related in a scalar context. The fallacy of such a supposition is the basic reason behind the following developments.

1. The development of mathematical vectors and other conversion factors since the sixteenth century. The relative value fee method, which ignores these basic principles, cannot claim to be scientifically established. Merrit discusses some scientific conversion factors in his text *Mathematics Manual*, 1962.

2. Our forefathers recognized the fact that owing to the wide diversity of conditions

throughout the country, federal bodies must be excluded from local considerations of health, education, etc. Accordingly, it is unconstitutional for national bodies, such as the C.D.A., to enter into this study of fee schedules, scientific or unscientific.¹

3. The Ontario Medical Association abandoned the study of the relative value fee method in 1962.

These facts stress the point that the C.D.A. has no role in areas of legal and economic competence. We need to retain professional consultants in these highly specialized fields, if we wish to preserve our own professional competence.

D. H. Jenkins, D.D.S., B.D.Sc.,
M.Sc.D., Dip. Orth.,
200 St. Clair Ave. West, Toronto, Ont.

1. Ontario Society of Orthodontists. Brief on orthodontic fee structures submitted to the Ontario Dental Association and the Canadian Dental Association by the Ontario Society of Orthodontists, 1964. Rt. Hon. Donald M. Fleming Q.C., consultant.

Canadian Officer in France

To the Editor:

A letter has been received from Maj. I. W. Susser with reference to his article, "A Canadian Dental Officer in France," which appeared in the July Journal.

He points out several errors which were not in the original text and requests that they be corrected in a future issue:

(a) Cobh, Ireland, appears as Cobb.

(b) The American Military Cemetery at Hamm containing the remains of General George S. Patton is in the Grand Duchy of Luxembourg — not to be confused with Hamm, Westphalia, in West Germany.

(c) The caption beside the picture of the Bastogne Town Square states that it "commemorates the Battle of the Bulge at the end of World War II." This should properly read "towards the end of World War II."

The Battle of the Bulge or The Ardennes Offensive (December 16-25, 1944) took place four months before the final capitulation of the Germans May 7, 1945 (V-E Day May 8, 1945). Several large scale actions followed, involving the Western Allies:

1. The checking of the German offensive before the close of 1944 and the final pinching off of the Bulge.

2. The Battle of the Rhineland.

3. The Battle of the Rhine.

4. The Advance to the Elbe and Baltic.

K. M. Baird, Brigadier,
Director General of Dental Services
for the Canadian Forces,
Ottawa, Ont.

The editor sincerely regrets that faulty editing marred an otherwise interesting article. (Ed.)

Dental Health of B.C. Indians

To the Editor:

[Regarding Dr. Sumner's article in the June Journal] . . . for the present I agree with the findings. The dental health of the Indian population in general is atrocious. Eskimos in isolation — caries-free; in association with white men — rampant caries. These are personal observations from the examination of Indian children and adults in Manitoba and Eskimo children at Churchill and further north.

R. A. Connor, D.D.S., D.D.P.H.,
Chief, Dental Health Division,
Department of National Health & Welfare,
Ottawa, Ont.

Dental Hygienists

To the Editor:

The paper in the June Journal on "Dental Hygiene in Canada" was exceptionally well done and should be valuable information for our members as well as for dental hygienists. In talking with members of the Board of the Canadian Dental Hygienists Association in Quebec City it was evident that even amongst their own members there is a regional difference of opinion as to what additional duties the hygienist should be trained to carry out. For example, in Alberta their special training is in public health, in Manitoba it is in prosthetics, whereas in Ontario and Nova Scotia they still hold to the basic course in dental hygiene but are prepared to look at further training in operative techniques. As you have stated in your conclusion — a searching investigation of all aspects of dental auxiliary services is needed and this, I think, presents a very great challenge to my committee in the next few months.

G. C. Swann, D.D.S.,
Chairman, C.D.A. Auxiliary Services
Committee.

Cacoethes Scribendi

To the Editor:

Re "Cacoethes scribendi" (July editorial)
. . . . Methinks thou doth protest too much!
. . . . Probably pathognomic for foot-in-mouth disease.

Bernard Spring, D.D.S.,
1428 Ouellette Ave., Windsor, Ont.

Dental Education in Britain and Canada

To the Editor:

I wish to express my great pleasure on the subject matter of your editorial in the August Journal, and to thank you for quoting my article published in 1963. I trust that the attention you have drawn to this subject will clarify many misconceptions that prevail in this area.

G. H. Sperber, B.D.S., M.S.,
Faculty of Dentistry, University of Alberta,
Edmonton, Alta.

Listing of Authors' Degrees

To the Editor:

I just read an article in the August issue of the Journal by Grainger, Jarrett and Honey and noticed that they are all listed D.D.S., D.D.P.H. This is common practice with public health dentists, but let us analyse the 'degrees.' As far as I can find out, the only thing that a professional man puts behind his name is a proper degree such as D.D.S., M.Sc.D., Ph.D., etc. Occasionally I have seen articles where the author has put in his diploma thus (Diplomate of such and such). I may be wrong, but I do not think a diploma belongs in abbreviated form as a degree. If so, have you ever seen an oral surgeon put D.D.O.S. behind his name, or a periodontist put D.P.? I would appreciate a clarification of this.

D. H. MacDonald, D.D.S.,
2 College Street, Toronto, Ont.

Earned qualifications are listed in the Journal. Honorary qualifications are deleted. Dentists and physicians may list their basic professional degrees (D.D.S., M.D.) and supplementary earned qualifications, such as masters' degrees, specialty diplomas, if they so desire. Preprofessional arts or science degrees are not usually listed for dentists or physicians. Baccalaureate degrees are only listed for non-dental or non-medical authors when they represent the writer's basic professional qualification. The initials R.N., R.D.T. and R.D.H. signify a registered nurse, registered dental laboratory technician and registered dental hygienist. (Ed.)

canadian dental association retirement savings plan



Quarterly report

August 31, 1965

	<i>Amount invested</i>	<i>Market value</i>	<i>Unit value</i>
Government Bond Fund	\$ 503,871	\$ 503,616	\$13.566
Corporate Bond Fund	868,007	858,514	14.319
Common Stock Fund	2,508,752	2,956,251	19.525
	<u>\$3,880,630</u>	<u>\$4,318,381</u>	

- ▶ Average Individual Contribution in 1964: \$1,381.
- ▶ Benefits of the plan: (1) Contributions are tax deductible; (2) Diversification through three funds; (3) Protects your retirement savings dollars against inflation.
- ▶ Investment Manager: The Royal Trust Company.
- ▶ For further information please complete and mail this coupon:

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plan d'épargne-retraite
association dentaire canadienne



Rapport trimestriel

le 31 août 1965

	<i>Montant investi</i>	<i>Valeur au marché</i>	<i>Valeur unitaire</i>
Fonds d'obligations gouvernementales	\$ 503,871	\$ 503,616	\$13.566
Fonds d'obligations corporatives	868,007	858,514	14.319
Fonds d'actions ordinaires	2,508,752	2,956,251	19.525
	<u>\$3,880,630</u>	<u>\$4,318,381</u>	

- Cotisation individuelle en 1964: \$1,381.
- Avantages du régime: (1) La déduction des cotisations de l'impôt; (2) La diversification qu'assurent les trois fonds; (3) La protection de vos épargnes contre l'inflation.
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Nom _____

Adresse _____

- Commandité par l'Association dentaire canadienne à l'intention de ses membres.

Canada's eighth dental school is born

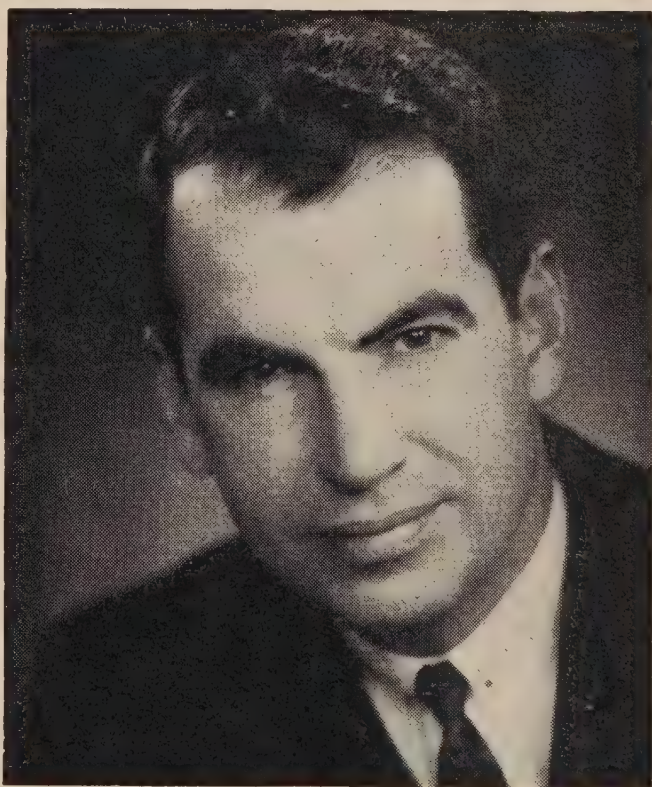
Wesley J. Dunn,* D.D.S., London, Ontario

On October 29, 1964 the Honourable John P. Robarts, Prime Minister of Ontario, announced that as a result of a very thorough study of medical and dental teaching facilities the Government of Ontario had approved four major projects. One of these was the development of a faculty of dentistry at the University of Western Ontario to operate in conjunction with the present Faculty of Medicine within a health sciences centre. On November 20 following, the Board of Governors of Western officially established the Faculty of Dentistry, effective January 1, 1965, and at the same meeting appointed the dean of the new school. The latter appointment became effective on February 1, 1965. Thus a long awaited parturition followed a period of gestation which extended over a span of almost 20 years.

As early as October 1947 the Board of Governors of the University of Western Ontario approved in principle the eventual development of a Faculty of Dentistry and in 1949 the Canadian Dental Association and the Royal College of Dental Surgeons of Ontario endorsed such establishment. In 1950, however, it be-

came obvious there was a need to expand the facilities then in operation in the province and the Board of Directors of the College accordingly recommended the creation of new and expanded premises for the Faculty of Dentistry of the University of Toronto. This project was completed in 1959.

Ashley & Crippen



*Dean, Faculty of Dentistry, The University of Western Ontario.

The efforts expended in respect to the Toronto program having been suitably rewarded, attention was once more directed to the establishment of a second dental school in the province. Following discussions with the Honourable M. B. Dymond, Minister of Health, the Board of Directors of the Royal College of Dental Surgeons in 1962 accepted the assignment of recommending a suitable dental school location to the government. The Board thereupon commissioned A. C. Lewis, former dean of the Ontario College of Education at Toronto and consultant in education to the Canadian Dental Association, to prepare a report. In November 1962 the Lewis Report was approved by the Board and almost immediately forwarded to the Minister. The report recommended that the new school be located at McMaster University provided that a medical school be established there simultaneously. If that recommendation could not be fulfilled, the report urged that the new school be located at the University of Western Ontario.¹

As the College of Physicians and Surgeons of Ontario had been concerning itself with the creation of a fifth faculty of medicine in Ontario and as McMaster University appeared to enjoy a position of priority in respect of its possible location, the Minister suggested that the two licensing authorities work together on this matter. If, ultimately, McMaster would not acquire the proposed faculty of medicine, then the R.C.D.S. could work independently toward the establishment of the school at Western. In time this latter alternative became necessary.

On February 14, 1964 the Board of Directors of the R.C.D.S. was apprised of the results of a visit with the chairman of the Board of Governors and president of the University of Western Ontario by a deputation representing the profession. The representatives of the University informed the deputation and subsequently the Minister of Health that the University would be most responsive to a request to establish a dental faculty provided the Ontario government would supply the capital funds and guarantee the necessary operating costs.

Accordingly, on February 17, a proposal was laid before the Minister of Health by

the R.C.D.S. Board recommending the earliest possible action to create a dental school at the University of Western Ontario. Six reasons were advanced at the time in support of the proposal:²

"There is an existing faculty of medicine with a highly competent staff. As a functioning faculty of medicine is mandatory before creating a faculty of dentistry and as it would take some time to develop a similarly qualified medical teaching staff in a university which does not at present include a faculty of medicine, the opportunity for earlier commencement at Western is obvious.

"There is a voluminous medical sciences library at Western much of which is necessary to a faculty of dentistry. Again, in a university not at present providing a medical course not only would it be necessary to develop a library for subjects generally regarded to be within the exclusive purview of dentistry but it would be required to create a medical library as well.

"The building program now advancing within the University of Western Ontario has been so planned that the incorporation of a faculty of dentistry could be achieved with minimal inconvenience and with the maximum saving of time. In fact, if government were to provide early approval the first class of dental students could be graduated from Western in the spring of 1969. By the most optimistic calculations it would not be possible to graduate a class in dentistry from any university which does not at present have a faculty of medicine until at least 1972. The burgeoning population of the province demands the earliest possible acquisition of a greater number of dental practitioners.

"There are established ideal working relationships between the University of Western Ontario and all the major hospitals in the area. The opportunity for clinical material for a faculty of dentistry both on an in-patient and an out-patient basis already exists. Such agreements would, perforce, have to be negotiated in any area where there is no operable medical school.

"An extensive school dental program is operating in London and full co-operation in the provision of patients for clinical material is assured.

"The existence of a dental faculty within a geographic area tends to draw a greater number of applicants from that area. It is known that the smaller centres are more likely to acquire practitioners from among students who have been recruited from similarly sized communities. The western aspect of Ontario requires more dentists and there is every likelihood that the smaller towns and cities of western Ontario would experience a significantly improved patient-dentist ratio if the second faculty of dentistry is located in London."

GROWTH POTENTIAL IN LONDON AND AT U.W.O.

The city of London and the University are both experiencing an almost explosive growth. Currently the population increase in London is approximately 33 per cent per decade. Retail sales in London now exceed \$252 million each year and capital sales are 49 per cent above the national average. London is, unquestionably, the commercial, industrial, and financial capital of western Ontario.

The University of Western Ontario doubled in size between 1945 and 1953. It doubled again between 1953 and 1961 and will double, once more, to 9,000 by 1967 or 1968. By 1970-71 the estimated full-time university population will approximate 11,500 students.

DENTISTS NEEDED IN WESTERN ONTARIO

The need for more dentists in Ontario is acute. In 1920 the province had a ratio of 1,901 people to each dentist. In 1964 the patient-dentist ratio in Ontario was 2,462:1—a ratio which each year has continued to worsen. If no additional dental school facilities were created and the existing school had continued to graduate maximum classes the ratio would have declined to at least 2,821:1 by 1980. The ever-worsening patient-dentist ratio coupled with significantly increasing demands for dental care services has created a problem of some magnitude.

The inequalities of distribution of dentists further aggravate the dental manpower problem.³ The county of Middlesex in which London is located had a ratio in 1964 of 2,354:1, slightly better than the provincial average. But the other counties of western Ontario of which London is the metropolitan centre did not fare as well. In Elgin County the ratio was 3,300:1, Oxford 3,419:1, Norfolk 3,926:1, Kent 3,507:1 and Lambton 3,677:1. The Grey-Bruce-Dufferin areas are equally as lacking in dentists and Huron County exhibited in 1964 a ratio of 5,612 people for every dentist in the county.

To maintain just the present provincial ratio of 2,462:1 until 1980 an additional 500 graduates beyond the existing capac-

ity of the University of Toronto's Faculty of Dentistry will be required. Thus, Western's new dental school is starting none too soon.

FACULTY ORGANIZATION

We hope that a reasonable number of our graduates will be motivated and academically prepared to undertake graduate and postgraduate education, thus enabling them to pursue careers in teaching and research or in specialty practice. But it is likely that the majority will proceed from graduation to general practice. Because Western's dental school will tend to serve the western aspects of Ontario many of its general practitioner graduates will probably locate in communities where specialty resources are limited. They must therefore be ready to render effectively and competently a broad spectrum of dental services. When care is sought for a child or when patients present with periodontal or endodontic problems or requiring extractions, we hope that our graduates will not automatically refer these patients for specialty attention unless they are sure that it would be in the patient's interest to make such referral. The number of specialists now available and even the number which we shall likely have in the foreseeable future are too few to be regularly engaged in providing attention which should be the responsibility of the competent general practitioner.

This is the philosophical basis upon which certain preliminary organizational decisions have been made in respect of undergraduate education. Departmentalization in the usual sense is being de-emphasized. Apart from six basic science disciplines (anatomy, bacteriology, biochemistry, pathology, pharmacology and physiology), which in our developing health sciences centre will be common to the Faculties of Medicine and Dentistry, only five departments are at present being considered:

1. A department of restorative dentistry—to include operative dentistry, fixed and removable prosthodontics, ceramics, endodontics, and dental morphology. A metallurgical and dental materials re-

search laboratory would form a part of this department.

2. A department of oral medicine—to include oral diagnosis, dental radiology, and periodontics. We hope that the head of this department will be appointed chief of the department of dentistry in the new university teaching hospital.

3. A department of oral surgery—to include local and general anaesthesia.

4. A department of paediatric dentistry—to include paedodontics and orthodontics.

5. A department of social dentistry—to include preventive dentistry, public health, epidemiology, ethics, jurisprudence, history of dentistry, practice administration including employment of auxiliaries, and any course which has as its purpose the inculcation that dentists are integral parts of society and have corresponding obligations and responsibilities. Our faculty will not be successful unless and until its graduates exhibit a well developed sense of social consciousness.

Treatment in the faculty clinics will be 'patient-centered.' By avoiding the barriers of departmentalization, especially in the clinical areas, we shall work toward that goal. A cubicle type main clinic has been specified—one which affords ease of supervision yet provides patient privacy. Cubicles will be sufficiently large to accommodate a dental assistant as well. Except for oral surgery and radiography the student will serve all his patients—the young, the middle-aged, the old, the edentulous, the semi-edentulous, and those in possession of all their teeth—in the cubicle to which he has been assigned. While this arrangement will undoubtedly require some mental gymnastics in timetable development, the effort, it is hoped, will be worth it.

Various faculty committees will be created as the need for them arises—curriculum, admissions, scholarships and awards, research, hospital services, and so forth. These committees will be elected by the faculty members and will operate on the basis of terms of reference approved by the faculty. The committees will report periodically to the faculty council where opportunity will be pro-

vided for full discussion and consideration before suggested matters become faculty policy. Where course content, calendar changes and the like are under review, proposals respecting them must, of course, receive the approbation of the University Senate.

STAFF

On February 15, 1965 the first recommendation concerning staff was made to the president of the University. It was suggested there should be one department for each of the basic science disciplines with cross-appointments between the Faculties of Medicine and Dentistry. *The Announcement* of the Faculty of Dentistry would then list the respective basic science disciplines as departments in the dental faculty. Heads of the departments and any other instructors provided by them would appear in the *Announcement* as the academic staff responsible for teaching dental students. The president concurred with these recommendations and immediately appointed the six basic science heads.

A 'co-operative individualist' is the kind of person that we hope to attract to our faculty. He must be creative, energetic and resourceful, and willing to assume personal responsibility for his area of particular interest; but once faculty policy has been democratically determined he will join ranks and co-operate with other members of the staff so that the best possible program may eventuate. Undoubtedly the quality of staff will be the most significant factor in the development of a creditable institution.

ADMISSION REQUIREMENTS

Admission to the Faculty of Dentistry will be based primarily on academic ability and personal qualities as evidenced by predental scholastic records, aptitude tests, and personal interviews. Because facilities for preclinical and clinical instruction will be limited, it will be necessary to restrict enrolment to those who, in the opinion of the faculty, are best qualified to meet the demands of the curriculum and most likely to complete the

course of study successfully. The presentation of the minimum requirements for admission should not be regarded as assurance that the applicant will necessarily be accepted.

On the basis of present admission requirements, an Ontario grade 13 student who intends to study dentistry at the University of Western Ontario should apply for admission to the first year of General Program One (Science) offered in the Faculty of Arts and Science. His grade 13 program must include English, a language other than English, chemistry, physics, algebra, geometry and one of trigonometry, botany, or zoology.

From the first year of General Program One (Science), he may proceed to either (a) the second year of a four year honours program leading to the B.Sc. degree or (b) the second year of some four year honours programs leading to the B.A. degree or (c) the second year of the three year General Program One (Science) leading to the B.A. degree.

Students will be urged not to anticipate dental school courses in their choice of options for the second year. Rather, they should seek to obtain a broad general background of education in keeping with their own interests.

Students who have completed a B.A. or B.Sc. or the equivalent preprofessional program at another university are eligible to apply for admission to the first year of Western's Faculty of Dentistry.

Perhaps a general statement should be made because of the two year 'predental' requirement following Ontario grade 13. This is a departure as far as Ontario is concerned, but is not precedental in Canada.

Plans are well advanced toward the establishment of a university health sciences centre. The new medical sciences building, adjoining the Cancer Research Institute and the School of Nursing, will soon be ready for occupancy. Efforts are at present being made which, by the fall of 1967 and 1970 respectively, should result in a dental sciences building and a university teaching hospital. The first year of a four year program in dentistry will be offered at least by September 1967, and possibly a small first year class may even be enrolled by September 1966.

It is of the utmost importance that within this health sciences centre every opportunity should be seized to inculcate in embryo physicians and dentists the fact that they are part of a health team, each contributing to the health needs of the community. Medical and dental students should experience comparable pre-professional programs to equip them to meet the demands from basic science areas. The depth of teaching in these disciplines should be comparable but areas of special interest to dental students will receive greater emphasis.

Admission criteria for the Faculty of Dentistry have been carefully considered by an informal committee, acting under the chairmanship of the writer, composed of the dean and assistant dean of medicine and heads of the anatomy, pharmacology, bacteriology, physiology, biochemistry, and pathology departments. It was a unanimously and strongly held view that since the basic science course content would be comparable for medical and dental students, the academic preparation of dental students should be comparable to that of medical students. Otherwise the basic science departments would have to defer their courses for dental students — a condition which is inimical to the quality of program we intend to pursue. It is hoped, too, that from the graduates of the Faculty of Dentistry will come individuals both motivated and academically prepared to proceed to graduate work and research in basic science disciplines. For these people adequate academic preparation and a strong basic science training are important.

PROJECTED ENROLMENT

The following projected enrolment figures were employed as the basis for the physical requirements of the dental sciences building: undergraduate class size in dentistry 52; total dental students in the four year program $4 \times 52 = 208$; graduate and postgraduate students 20; dental hygiene class size 20; total dental hygiene students in the two year program $2 \times 20 = 40$; total number of dental, graduate and postgraduate, and dental hygiene students 268.

The above figures are those which might reasonably be expected when the faculty is operating at capacity.

PHYSICAL ACCOMMODATION

The first draft of the general specifications for the dental sciences building was submitted for consideration early in March 1965. Section 1 comprised areas specific to dentistry and a total space allotment of 48,730 net square feet was requested. Section 2, relating to the basic sciences' expansion requests, comprised 40,480 net square feet. Great emphasis has been given to adequate provision for research activities.

Present intentions foresee the detailed planning of the dental sciences building completed before the end of the year so that tenders can be called early in 1966. Active construction will probably consume 18 months and the building, therefore, should be ready for use in September 1967. This building will be physically attached to all others making up the health sciences centre.

The university teaching hospital, which will form a part of the health sciences centre, is expected to open in the fall of 1969. An area approximating 2,000 square feet, consisting of eight dental operating rooms with facilities for the necessary supportive services, has been planned and preliminary drawings have been submitted to the hospital planning committee. This hospital department will serve both for out-patient services and as clinical facility for the full-time members of staff.

LIBRARY

The collection of books and periodicals for the Faculty of Dentistry will be integrated within the existing biomedical library. It is important that dental journals be alphabetically inserted within the collection of the medical and basic science journals and that dental texts find themselves on shelves contiguous to those holding medical books. This is not only good for dental students but will also have a subtle effect on the medical and basic science teachers. Furthermore, phys-

iology is physiology and biochemistry is biochemistry. It is therefore difficult to justify artificial separation of the relevant publications.

The budget of the faculty for 1965-66 contains a significant provision for the purchase of books and journals. By the date of enrolment of the first class a creditable library will have been initiated.

CONCLUSION

Some readers may disagree with the preliminary decisions we have made and the various considerations which have spawned them. But each of us is the product of his own background and experience; thus it is difficult to be thoroughly objective when considering the factors which should influence the development of a new dental school. Tradition and experience can be of inestimable value but they are not without their drawbacks as well. Sometimes it is difficult to overcome the cloying inertia which precedent and predisposition create even though it is generally recognized that changing patterns in contemporary society demand another way of doing things.

John W. Gardner, U.S. Secretary of Health, Education and Welfare and former president of the Carnegie Foundation, has written *Self-Renewal: The Individual and the Innovative Society*, a vital and preceptive book which I have found helpful and stimulating.⁴ His words are applicable to dentistry's present day concerns and the profession's attitude to them. They apply with equal validity to this embryonic institution as well. "A society," he says, "whose maturing consists simply of acquiring more firmly established ways of doing things is headed for the graveyard—even if it learns to do these things with greater and greater skill. In the ever-renewing society what matures is a system or framework within which continuous innovation, renewal, and rebirth can occur. . . . Renewal is not just innovation and change. It is also the process of bringing the results of change into line with our purposes."

Whether or not the contribution to education and research of the Faculty of Dentistry of the University of Western Ontario will be significant awaits the result of the grinding of its hopes and aspirations in the crucible of time. If in common with other educational institutions it is able, as Gardner suggests, to shift to the individual the burden of pursuing his own education it will have attained some measure of achievement. At least this can be said: there is a genuine aspiration which pervades the University that its newest faculty will provide a program of outstanding merit and that its graduates will be a credit to their University, to their profession, and to them-

selves. I deeply share these convictions and I am sure that all who join in the tasks of this new faculty will do everything within their ability to create an academic climate within which these desires may attain fruition.

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*Faculty of Dentistry,
University of Western Ontario*

The Nova Scotian Hotel will be the headquarters for the C.D.A. National Convention in Halifax next June. The Journal will bring you further news about the Convention, beginning with the January 1966 issue.



C.N.R.

Management of some dental emergencies

Pain, traumatic injuries to children's teeth, cardiac arrest, anaphylactoid shock

Ideal treatment for dental pain lies in direct removal of the cause. If this is impossible, recourse may be made to local anaesthetics and analgesics. Emergency treatment for injuries to anterior teeth in children is directed at preservation of the affected teeth. Emergency treatment for sudden collapse in the dental chair is directed to immediate restoration of vital functions. No time should be wasted in preparing and administering supportive drugs or calling for help. Oxygen, the equipment for its administration under pressure and a medical emergency tray should be within easy reach at all times.

La meilleure façon d'éliminer la douleur d'origine dentaire est d'en enlever la cause. Lorsque ceci n'est pas possible, il faut avoir recours aux anesthésiques locaux ou aux analgésiques. Le traitement d'urgence des fractures accidentelles des dents antérieures des enfants a pour but de préserver la dent malade. Dans le cas de faiblesse sur la chaise du dentiste, le traitement d'urgence se propose de restaurer immédiatement les fonctions vitales. Il ne faut pas perdre de temps et il faut administrer immédiatement les médicaments nécessaires et appeler à l'aide s'il le faut. L'oxygène, les appareils nécessaires à son administration, et le nécessaire médical d'urgence doivent toujours être à portée de la main.

This discussion is confined to dental pain as an emergency, emergency treatment of common injuries to anterior teeth in children, and the more serious medical emergencies that may be encountered in dental practice.

Based on an essay awarded first prize in the Canadian Dental Association War Memorial Award Competition, 1965.

DENTAL PAIN AS AN EMERGENCY

Pain is the most commonly experienced symptom in dentistry and is frequently the reason for the first visit of a patient to the dentist. Pain, as Monheim¹ defines it, is "an unpleasant sensation created by a noxious stimulus which is mediated along specific nerve pathways into the

central nervous system where it is interpreted as such." The successful emergency relief of pain often determines whether or not the patient will seek further treatment from a particular dentist.

The methods available for pain control comprise (1) removal of the cause (tooth extraction); (2) blocking the pathway of painful impulses by local anaesthesia (the block is effective as long as the anaesthetic solution is present in the nerve in sufficient concentration to prevent depolarization of the nerve fibres); (3) raising the pain threshold through analgesia; (4) eliminating pain reaction by cortical depression through general anaesthesia; and (5) psychosomatic methods that condition the patient prior to a dental operation.

It is advisable that dentists confine themselves to methods 1, 2, 3, and 5, either alone or in combinations.

COMMON INJURIES TO ANTERIOR TEETH IN CHILDREN

Injuries to anterior teeth in children are so common that their treatment should be thoroughly understood by all practising dentists.

An adequate history must be taken and a complete clinical examination made prior to any treatment. To facilitate this, printed sheets bearing appropriate headings and covering sufficient detail should be available in the office when emergencies present themselves. If legal action results from an accidental injury the dentist may become an important witness. Thus, the maintenance of accurate records is therefore essential.

Class 1: Enamel Fracture of Crown Involving Little or No Dentine²

1. Isolate the area with cotton rolls or rubber dam and dry the area with a low pressure stream of warm air, being careful not to dehydrate the dentine.

2. Grind smooth any sharp edges of the tooth structure with a carborundum stone

or sand paper disk and polish the surface with pumice.

3. Place a coating of protective varnish over the exposed area.

4. Advise the patient to return in one week for observation.

Class 2: Extensive Crown Fracture Involving Considerable Dentine but No Pulp²

1. Wash off the fractured tooth with tepid water, cleaning the tooth of blood and/or debris.

2. Isolate the tooth with rubber dam or cotton rolls and gently dry the tooth with a stream of lukewarm air, avoiding dehydration of the dentine.

3. Place a layer of a calcium hydroxide product over the fractured and exposed dentine; then apply a layer of zinc phosphate cement over the fracture line.

4. Select a resin crown form of suitable size and shape; contour its gingival end to fit without impinging on gingival tissues.

5. Modify the crown form with a self-curing plastic of suitable shade to produce an accurate treatment crown.

6. Check the occlusion and then perforate the labial face with a large round bur to permit application of the pulp tester.

7. Fill the crown with a creamy mix of cement and seat to place over the tooth.

8. Check the occlusion in all positions.

9. Advise the patient to report immediately if pain is experienced.

Class 3: Extensive Crown Fracture Involving Considerable Dentine and Exposing the Pulp²

When a class 3 fracture occurs every effort should be directed at preserving the vitality of the tooth. Three types of pulpal therapy are possible: (a) pulp capping, (b) pulpotomy and (c) pulpectomy and root canal filling. The procedure employed depends on: (1) the extent of the exposure; (2) the condition of the pulp; (3) the length of time elapsed since the exposure; (4) the extent of root devel-

opment; and (5) the extent of injury to the root and supporting structures. General health and the condition of the oral cavity should also be taken into consideration.

Pulp Capping.—Pulp capping can be done when (a) the fracture is so near the pulp that the pink tissue is visible through the thin layer of dentine or (b) where the pulpal exposure is no greater than 1 mm. in diameter and bleeding is limited. Exposure time should not be more than 15-18 hours, the root apex closed or nearly closed, vitality reaction good and there should be no other complications.

1. Isolate the tooth and exclude moisture.

2. Wipe clean with sterile water or some local anaesthetic solution on cotton pellets.

3. Dry gently with a stream of lukewarm air.

4. Cover the pulp and exposed dentine with a calcium hydroxide product. When this is hardened, place a layer of zinc phosphate cement over it.

From this point, proceed with steps 4 to 9 as for a class 2 fracture.

Pulpotomy.—A pulpotomy should be performed if the pulp exposure is greater than 1 mm., but the exposed portion of the pulp is not infected or degenerated, and where haemorrhage may have taken place; where the exposure has been for more than 18 hours but less than 48 hours and the root apex is wide open; and where there is definite evidence of vitality and there are no other complications.

1. Anaesthetize the pulp by infiltration or conduction anaesthesia.

2. Isolate the tooth under a rubber dam—single tooth application over a rubber dam clamp or a matrix retainer.

3. All instruments must be sterile and the field of operation should be rendered aseptic.

4. Open the pulp chamber with sterile burs and gain good access.

5. Remove the bulbous coronal portion of the pulp down to a quarter of the length of the root using a sharp spoon excavator, moving the instrument from the uncontaminated to the contaminated

area to avoid further infection of the pulp.

6. Clean out and sterilize the pulp chamber with 3 per cent hydrogen peroxide and Dakin's solution.

7. Stop the bleeding by putting a dry cotton pellet in contact with the pulp stump and leave it undisturbed for 2-3 minutes, then gently remove it. If bleeding is not arrested, this procedure can be repeated with a cotton pellet moistened with a few drops of a local anaesthetic solution.

8. If dealing with a permanent tooth, cover the amputated stump with a creamy mix of a calcium hydroxide product. If the tooth is deciduous, use a zinc oxide-eugenol mix. (Calcium hydroxide pulpotomies in deciduous teeth are contra-indicated because of many instances of internal root resorption and accelerated root resorption.)

9. Seal with cement and place crown form if desired.

10. Take a radiograph of the tooth for future comparison.

Pulpectomy.—Pulpectomy or pulp extirpation is indicated for teeth with pulps that are putrescent or of questionable vitality; where the pulp has been exposed for more than 72 hours, and where the root has gone on to complete formation. Pulpectomy should not be performed on teeth that are not able to retain a permanent restoration because of extensive root or periodontal pathosis or where such treatment is contra-indicated by the patient's health.

Perform steps 1-5 as for a pulpotomy, then proceed as follows:

6. Using the original radiograph as a guide, place a stop device or marker on a smooth broach and explore the canal; the constriction at the dento-cemental junction can be sensed.

7. Remove the pulp with a barbed broach, giving the broach one full turn in the pulp canal to engage the pulp, then removing it.

8. Ream the canal to enlarge and clean it thoroughly, flushing with 3 per cent hydrogen peroxide and Dakin's solution alternately. The last solution used should always be Dakin's.

9. Expose a radiograph with the measuring device in canal.

10. Stop bleeding with blunt sterile absorbent paper points.

11. Place a medicated dressing of clove oil on blunt sterile absorbent points, leaving each point in the root canal for at least one minute.

12. Seal medicated absorbent point in canal for 2-3 days.

13. Following this, routine root canal therapy is performed.

Class 6: Fracture of Root, With or Without Loss of Crown Structure²

With a fracture of this type the chances for saving the pulp's vitality are often excellent, for the decompression of the fracture appears to prevent excess trauma to the pulp.

The essentials for successful treatment are: (a) fragments in close apposition; (b) fracture line not in the cervical third of root; (c) absence of infection; (d) good general health; (e) immobilization of the fragments if this is required.

1. Place a gauze sponge over the tooth and with the thumb and index finger straddling the tooth, and gently force the crown fragment into apposition with the root fragment.

2. Immobilize and stabilize the crown portion of the tooth by wiring it to adjacent sound teeth. Leave for 3-6 months.

Class 8: Fracture of Crown En Masse and Its Replacement²

The essentials for successful treatment are: (a) good root canal therapy; (b) preservation of the crown in a moist condition; (c) prevention of gingival tissue extending over the root stump; (d) accurate cementation of the crown.

1. Anaesthetize the tooth with local anaesthetic.

2. Remove the semi-attached crown by severing the tissue fibres holding it in place.

3. Preserve the crown immediately after removal, in normal saline solution.

4. Do a pulpectomy on the root portion of the tooth as previously outlined.

5. Remove pulp tissue from the coronal portion of the pulp chamber of the detached crown and replace the latter in normal saline solution.

Following successful root canal therapy, a post is cut to fit into the previously filled root canal (only the apical third of which is filled) and the crown cemented into position.

SERIOUS MEDICAL EMERGENCIES

In dental practice, cardiac arrest and anaphylactoid shock are uncommon events but every practising dentist should know what to do if faced with one of these emergencies.

Cardiac Arrest

Cardiac arrest is "a sudden and unexpected cessation of effective cardiac output."³ It may be precipitated by the injection of a local anaesthetic, antibiotics, other drugs, or by the mere stress of dental treatment. Cardiac resuscitation must be started immediately if the patient is to survive. Closed chest cardiac resuscitation is the treatment of choice for cardiac arrest.

Kouwenhoven et al⁴ point out that closed chest cardiac massage provides some ventilation of the lungs. Safar et al⁵ state that sternal compression cannot be relied on to provide adequate ventilation of the lungs. External cardiac massage should be performed simultaneously with artificial respiration.

The following technique for the management of cardiac arrest is suggested by Allwright and Cheong:⁶

A. Rapid diagnosis.

Check as quickly as possible the carotid pulse, precordial heart beat, pupil constriction and respiration. Their absence indicates cardiac arrest.

B. Artificial respiration.

1. Place the patient in a supine position on the floor or ground.

2. Examine the airway. Remove vomitus or other foreign matter. Extend the patient's neck fully.

3. Pull the tongue forward. Push the lower jaw forward by pressing at the angle of the jaw.

4. For mouth-to-mouth respiration place your open mouth tightly over the patient's mouth. Pinch off the patient's nostrils.

For mouth-to-nose respiration close the patient's lips tightly. Place your mouth over the patient's nose, being careful not to block the nostrils.

For mouth-to-Resuscitube respiration insert the artificial airway so that the mouth protector is against the face. Pinch off the patient's nostrils.

5. Take a deep breath and blow into the lungs until the chest just rises. Allow the patient to exhale. Repeat every 3-4 seconds. If the chest fails to rise, check the airway for obstruction.

C. External cardiac massage.

1. Place the patient in a supine position on the floor or ground.

2. Make sure the airway is clear.

3. Kneel beside the patient and locate the lower end of the sternum by palpating the xiphoid process.

4. Place the heel of either hand just above the xiphoid process, with the other hand on top of the first to form a cross. Extend all fingers to avoid touching the ribs. Use one or two fingers on babies and infants. One hand is used on older children.

5. Press down firmly, using body weight to assist, depressing the sternum 1-1½ inches. This force compresses the heart, forcing blood into the lungs and promoting systemic circulation.

6. Release the pressure by lifting the hands slightly, allowing the ventricles to refill and the chest to expand. A pulse will be felt if the resuscitation is done properly.

7. Repeat the cycle 60-80 times per minute.

8. If another person is present (this is desirable), simultaneous artificial respiration should be done 12-16 times per minute. There is no need to synchronize the two procedures. If alone, rapidly insufflate the patient four times. Commence

external cardiac massage. Stop massage every 1½ minutes (90-120 compressions) and quickly ventilate the lungs four times.

9. If normal breathing and heart action return, stop resuscitation and leave the patient in a supine position. Observe carefully and continue resuscitation if necessary until arrival at the hospital.

Anaphylactoid Shock

Anaphylactoid shock is an acute allergic reaction which may follow the injection of a drug. It constitutes a major hazard in antibiotic therapy. Anaphylactoid reactions are most common following intramuscular administration of procaine penicillin.⁷ With the advent of oral penicillin, however, the chances for such a reaction have been lessened considerably. The reaction usually occurs within seconds or minutes following exposure to the allergen, but sometimes may be delayed for a longer time. The onset may be so severe and overwhelming that death occurs as a result of very rapid circulatory depression and collapse before any treatment can be administered. The characteristic symptoms are collapse, flushing, itching and burning of the face and upper chest and the possible formation of giant hives over these areas. These skin manifestations are usually followed by tightness or pain in the anterior part of the chest, irritative cough, wheezing and shortness of breath with cyanosis.

Instant help must be given if the patient is to live. Freedman³ suggests the following treatment:

1. Put the patient flat on his back with the feet elevated above the head level by about six inches.

2. If the patient is wheezing badly and is suffering from shortness of breath, elevate his head until the respiratory symptoms subside.

3. If the offending drug was injected in the arm, put a tourniquet on the arm above the point of injection.

4. Using a 2 ml. sterile disposable syringe with a 5/8 inch 25 gauge needle, inject 0.5 ml. aqueous adrenalin (1:1,000) intramuscularly into the opposite arm without the tourniquet.

5. Inject 50 mg. (1 ml. of 50 mg./ml. concentration) diphenhydramine (Benadryl) intramuscularly using the same size syringe.

6. The patient should recover after this. If not, wait another five minutes and administer another 0.3 ml. adrenalin intramuscularly. Repeat no more than three times, at five minute intervals, until the desired effect is obtained.

7. If cardiac and respiratory arrest occur, institute artificial respiration and external cardiac massage immediately.

8. Obtain medical consultation at the first opportunity.

EQUIPMENT FOR TREATMENT OF EMERGENCIES

Oxygen is certainly the most valuable agent used in counteracting dental emergencies. Thus, oxygen and suitable equipment for administering it under pressure should be readily available in all dental offices.

Administration of oxygen to a patient in whom respiration has stopped or nearly stopped is useless as insufficient gas is inhaled. Thus, a knowledge of artificial respiration is needed. The dentist who is reluctant to apply his mouth to that of his patient may eliminate direct contact by using the Brook airway. This is fitted with a one-way valve which prevents the patient's exhaled air from returning to the operator and possibly causing cross infection.

Freedman³ recommends that a prepared tray be maintained for the treatment of medical emergencies. This tray should contain the following supplies:

1. Six sterile disposable 2 ml. syringes with 25 gauge needles, $\frac{5}{8}$ inch long.

2. One rubber tourniquet (soft rubber tubing, 20 inches long and $\frac{5}{8}$ inch diameter).

3. One rubber-topped vial (30 ml.) of 1:1,000 aqueous solution of adrenalin.

4. Three ampoules (1 ml.) diphenhydramine (Benadryl) in 50 mg./ml. concentration.

5. One rubber-topped vial (10 ml.) of sodium phenobarbital (Luminal) in 150 mg./ml. concentration.

6. One container of alcohol swabs.

The drugs should be dated so that they may be replaced when indicated. These supplies should be added to the routine dental equipment used by the dentist.

SUMMARY

Dental pain is, by far, the commonest symptom that will cause a patient to seek the services of a dentist immediately. Direct removal of the cause is the treatment of choice. If this is impossible, recourse may be made to local anaesthetics and analgesics.

Injuries to anterior teeth in children are very common emergencies. All dentists should know how to handle these cases completely.

Emergency treatment of sudden collapse in the dental chair is directed to immediate restoration of vital functions. No time should be wasted in preparing and administering supportive drugs or calling for help. A matter of a few minutes may mean the difference between life and death.

Cardiac arrest and anaphylactoid shock are two of the most serious medical emergencies that may be encountered in dental practice. Though of rare occurrence, all dentists should be familiar with their causation, diagnostic symptoms and management.

Oxygen, the equipment for its administration under pressure and a medical emergency tray should be within easy reach at all times. Drugs on the tray should be renewed as required.

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Economic level, dental health, interest response to a poliomyelitis vaccination program and voting behaviour in a fluoridation plebiscite

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Dental health in school children, interest response to a polio vaccination program, and voting results in a fluoridation plebiscite were compared to economic level in an Alberta community of 35,000 people. Significantly better dental health was found in school children from the high economic group as compared with the low. Adults and preschool children from the high economic group demonstrated greater interest response to the polio vaccination program than did the low economic group. A significantly higher percentage of voters from the high and middle economic groups turned out to vote in the fluoridation plebiscite. The high and middle economic groups voted strongly in favour of fluoridation while the low economic group voted strongly against the measure. Despite the strong support from the high and middle economic groups the preponderance of members in the low group was sufficient to defeat the fluoridation plebiscite.

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Le niveau économique d'une municipalité de 35,000 habitants, en Al-

berta, fut confronté avec l'hygiène dentaire chez les écoliers, l'intérêt démontré en réponse à un programme de vaccin contre la poliomyélite et le résultat d'un plébiscite concernant la fluoration. On trouva un meilleur état d'hygiène dentaire très marqué chez les écoliers appartenant à un niveau supérieur d'économie. Les adultes et les enfants d'âge pré-scolaire faisant partie de cette classe démontrèrent un plus vif intérêt en réponse au programme de vaccin contre la poliomyélite, que ceux d'un niveau plus bas d'économie. Dans le plébiscite concernant la fluoration, un pourcentage élevé des groupes d'économie supérieure et moyenne se donna la peine de voter. Ces gens votèrent fermement en faveur de la fluoration tandis que ceux du niveau inférieur d'économie votèrent, aussi fermement, contre. Malgré l'appui solide des groupes des niveaux supérieurs et moyens d'économie, la prépondérance du nombre des membres du groupe du niveau inférieur d'économie décida de la défaite de la fluoration.

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In 1960 the Chief Dental Officer of the United States Public Health Service asserted that over 97 million people in the United States were suffering from decayed teeth and that a further 21 million

had lost all their teeth.¹ In Canada, according to the Canadian Dental Association, 98 per cent of Canadian children have one or more decayed teeth by age 13, and, on the average, these children have a backlog of three teeth requiring restoration.² The widespread distribution and magnitude of dental disease make it obvious that the ultimate solution lies in prevention rather than treatment. Despite the clearly demonstrated effectiveness of water fluoridation in combatting tooth decay, the public has not been quick to adopt this measure. In fact over the past decade, the rate of community acceptance of fluoridation in the U.S.A. has slackened rather than accelerated. At the present time approximately one person in four in the United States is receiving the benefits of water fluoridation, and in Canada the figure is one in five.

Until the 1959 Buffalo Dental Survey it was assumed that the prevalence of dental caries did not vary significantly among children of various socio-economic levels.³ The Buffalo study revealed, however, that white children who resided in high socio-economic areas of Buffalo experienced less dental caries than white children of the low socio-economic areas of the city. A 1961 study of dental caries incidence among white children of various socio-economic levels in a rural North Carolina county further substantiated these findings.⁴ Although these studies point up a greater need for dental services on the part of low socio-economic groups this care is not being sought.

The Canadian Sickness Survey (1950-51) enquiring into the amount of health care received by Canadians of various income levels revealed that both the percentage of persons receiving dental care and the average number of dental visits were far lower for the low economic group than for the middle and high economic groups.⁵ Interestingly, the greatest difference between the high and low economic groups was found in children under 15 years of age. It might be assumed that lack of money is the only factor which prevents low income groups from seeking dental services for children.

But this is not so, as was shown by the University of Chicago's National Opinion Research Center (NORC) which reported that people with higher education (high school and college) are inclined to visit a dentist more often for preventive dental care than those with only elementary school education.⁶ NORC also showed that persons in the high socio-economic level possess more knowledge of fluoridation and are more likely to favour the measure.

The present study was undertaken to determine the influence of economic level upon dental health status, voting behaviour in a fluoridation plebiscite, and interest response to another public health measure, specifically a Sabin oral polio-myelitis immunization program. The town of Jasper Place, Alberta, was selected for the study. This compact community of 35,000 people, a suburb of Edmonton, is ideal for the following reasons:

1. A recent fluoridation plebiscite had failed to obtain the required 66 $\frac{2}{3}$ per cent majority vote for approval.

2. The town has a good representation of clearly definable low, middle, and high economic residential subdivisions.

3. Considerable geographic correlation exists between polling districts and school districts. In almost every case the polling station was set up in an elementary school and served the same area as the school. This permits a comparison of voting results with the dental health level of the school children and interest response to a polio vaccination program held in the schools.

4. Both investigators are residents of and are thoroughly familiar with the community. One is the town dental health consultant and the other a public school trustee.

METHOD

Using mean real property assessment as a basis the 22 residential subdivisions in the town were classified into low, middle and high economic groups. The mean real property assessment values ranged from a low of \$3,120 to a high of

TABLE 1 Total population distribution by economic status in 22 residential subdivisions of Jasper Place, Alberta, 1962.

Economic group	Total %	Adult %	School %	Preschool %
High	19.68	10.27	3.86	5.55
Middle	21.87	10.68	4.91	6.28
Low	58.57	29.87	14.89	13.81
Total	100.12	50.82	23.66	25.64

\$7,500 with seven intervening levels. The dividing points between the low, middle and high economic groups were arbitrarily chosen as follows: low economic \$3,120-\$4,999; middle economic \$5,000-\$6,499; high economic \$6,500-\$7,500.

On this basis four residential subdivisions were classified as high economic, five as middle economic, and 13 as low economic. The population distribution is outlined in Tables 1 and 2. The percentage of resident property owners was high in all three groups as set out in Table 3. Although 78.28 per cent of the low economic group owned their own homes, it was found that 78.61 per cent of all non-property owners were also in this group. The low economic group had proportionally more children attending school and fewer of preschool age than either the middle or high groups. This slight difference is probably because the middle and high economic subdivisions were of more recent development and therefore likely to contain a higher percentage of younger children.

DENTAL HEALTH

The dental public health records of the elementary school children of the three economic groups were reviewed and the level of dental health assessed under the following headings: (1) Percentage of children free of all dental defects or with all necessary dental care completed; (2) Percentage of children receiving dental care as evidenced by the presence of one or more dental restorations or orthodontic appliances. Children who had received

TABLE 2 Distribution of economic groups in 22 residential subdivisions of Jasper Place, Alberta, 1962.

Economic group	Adult %	School %	Preschool %
High	20.26	16.40	21.83
Middle	21.05	20.83	24.68
Low	58.69	62.77	53.49
Total	100.00	100.00	100.00

extractions only were excluded from this group.

Significant differences in dental health level were found between the three economic groups. The low group had significantly more untreated dental defects than the middle group, which in turn had significantly more untreated defects than the high group. Similar significant differences were found with regard to the percentages of children receiving dental care (Table 4 and Figure 1).

INTEREST RESPONSE TO
POLIO VACCINATION PROGRAM

Public health records were obtained from the town health unit to study the relationship between economic level and the response to an oral polio immunization program. The records covered the response by adults, preschool children, and school children. The immunization clinics were conducted free of charge in the elementary schools and drew from the district served by the school. Thus a valid comparison can be made between

TABLE 3 Property ownership status in 22 residential subdivisions of Jasper Place, Alberta, 1962.

Economic group	Per cent that own their own homes	Per cent of non-property owners	Per cent of all property owners
High	94.09	7.38	21.58
Middle	89.21	14.00	21.90
Low	78.28	78.61	56.51
Total		99.99	99.99

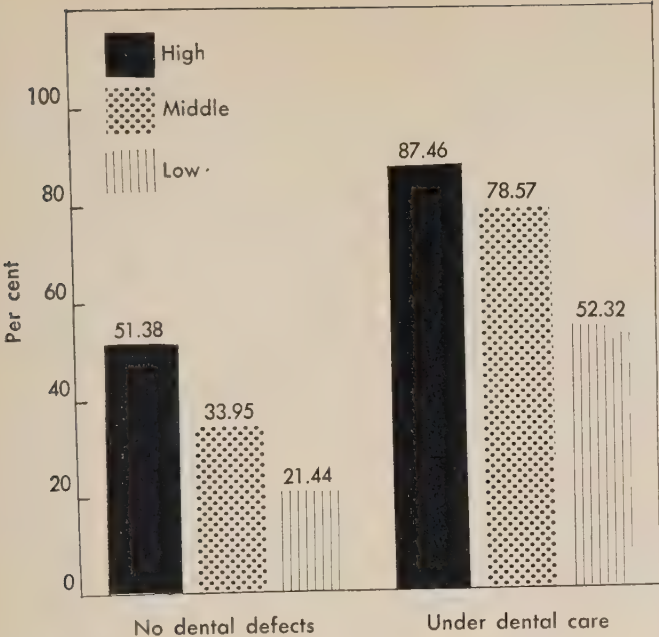


TABLE 4 Dental health status of school children in Jasper Place, Alberta, 1962.

Economic group	No defects	Under dental care
High	51.38 % S.E. 1.73	87.46 % S.E. 1.14
Middle	33.95 % S.E. 1.25	78.57 % S.E. 1.20
Low	21.44 % S.E. 0.81	52.32 % S.E. 0.93

group. The response of the middle economic group was about midway between the other two groups. Although there was some difference in response between the school children of the high economic group and those of the middle and low groups, this difference was of only borderline significance.

The high level of response by the school children of all three economic groups is probably because school children received the vaccine automatically unless the parents actively registered their disapproval by returning a signed slip to the school nurse.

It is interesting that the marked difference in response between adults and preschool children of the high and low

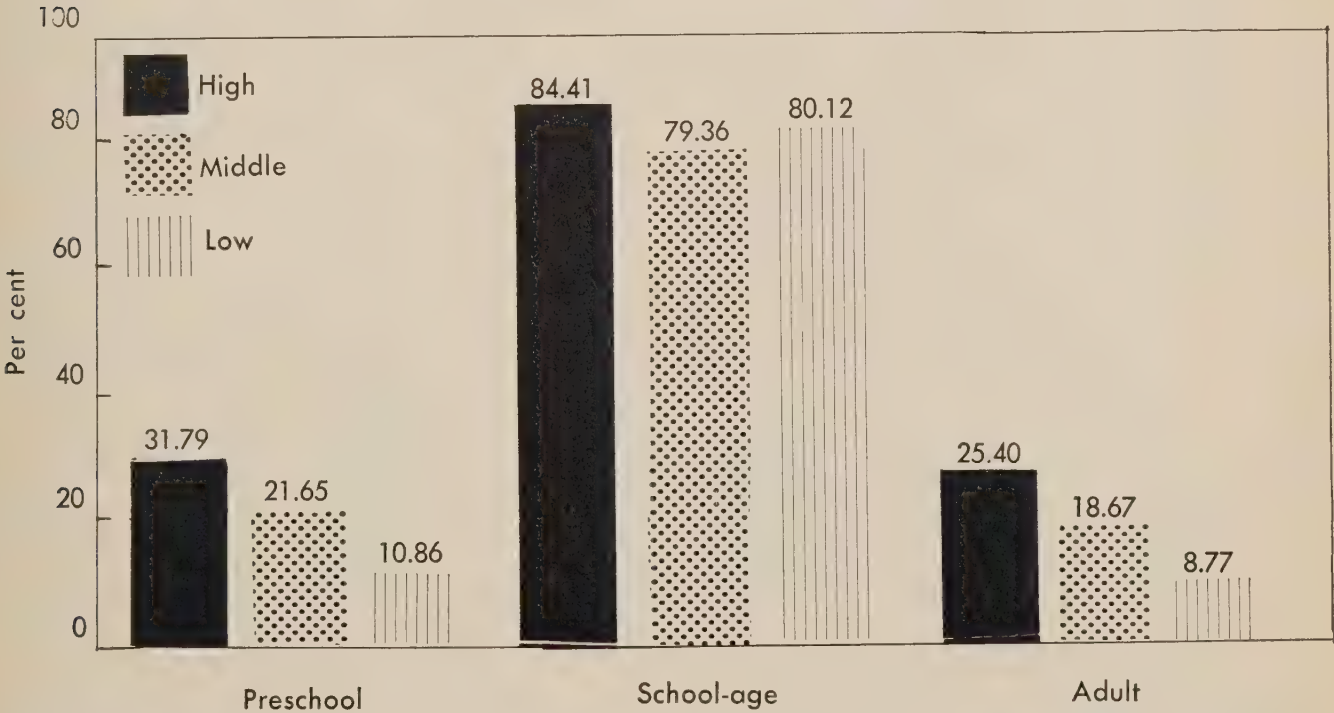


FIGURE 2 Actual response to poliomyelitis vaccination program expressed as a percentage of potential response, Jasper Place, Alberta.

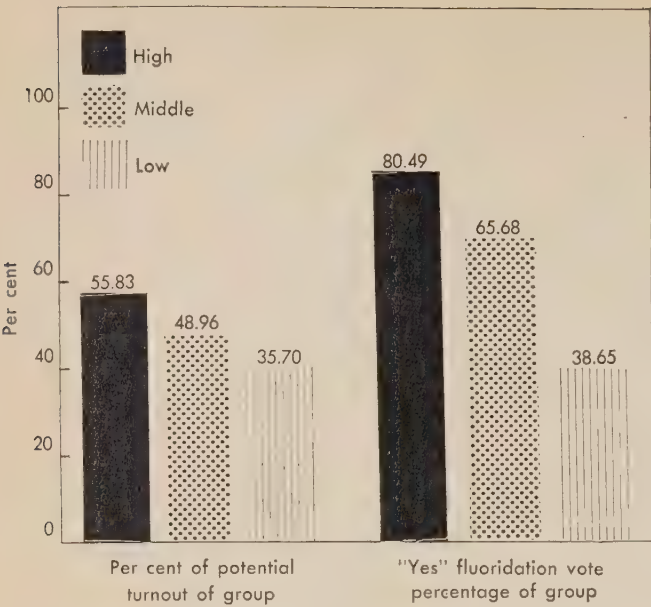


FIGURE 3 Voting turnout and direction of vote at Jasper Place, Alberta fluoridation plebiscite.

economic groups was not mirrored in school children. This seems to suggest that the responsible factor is lack of interest rather than fear of contracting the disease from the vaccine.

VOTING BEHAVIOUR IN THE
FLUORIDATION PLEBISCITE

Data obtained from municipal records clearly demonstrate significant differ-

TABLE 5 Percentage of eligible persons responding to polio immunization program at Jasper Place, Alberta, 1962.

Economic group	Preschool	School	Adult
High	31.79% S.E. 1.14	84.41% S.E. 1.06	25.40% S.E. 0.78
Middle	21.65% S.E. 0.96	79.36% S.E. 1.05	18.67% S.E. 0.68
Low	10.86% S.E. 0.48	80.12% S.E. 0.60	8.77% S.E. 0.30

TABLE 6 Fluoridation voting turn-out and direction of vote, Jasper Place, Alberta, 1962.

Economic group	Voting turn-out (% of those eligible to vote)	Per cent in favor of fluoridation
High	55.83	80.49
Middle	43.96	65.68
Low	35.70	38.65

ences in voting turn-out and in the direction of the vote between the three economic groups. Twenty per cent more of the high economic group voted than the low. The middle economic group stands about midway between (Table 6 and Figure 3).

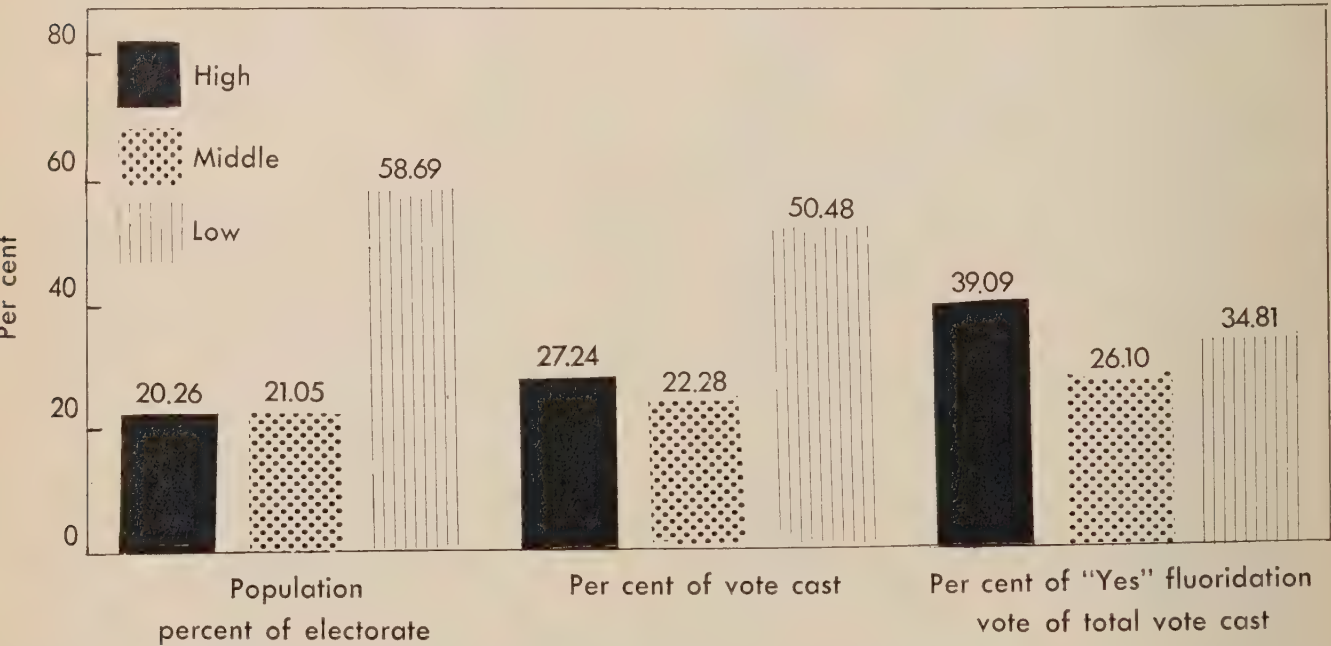


FIGURE 4 Distribution of electorate and contribution by economic groups to Jasper Place, Alberta pro-fluoridation vote.

TABLE 7 Distribution of electorate and contribution by economic groups to pro-fluoridation vote, Jasper Place, Alberta, 1962.

Economic group	Per cent of electorate	Per cent of total vote cast	Per cent of total fluoridation vote
High	20.26	27.24	39.09
Middle	21.05	22.28	26.10
Low	58.69	50.48	34.81
Total	100.00	100.00	100.00

The high and middle economic groups voted strongly in favour of fluoridation, 80 and 66 per cent respectively, while the low economic group voted only 35 per cent for the measure (Table 6 and Figure 3).

Although the high and middle economic groups collectively cast only 49.5 per cent of the total vote recorded, these two groups together cast 65 per cent of the total pro-fluoridation vote. The low economic group, while casting 50.5 per cent of the total vote, contributed only 34.8 per cent to the total pro-fluoridation vote (Table 7 and Figure 4).

In spite of the strong support of the high and middle economic groups, the preponderance of numbers in the low economic group was sufficient to defeat the plebiscite.

DISCUSSION

There is a remarkable similarity between the response of each economic group to the various health needs studied and the voting behaviour of each group in the fluoridation plebiscite. In lower economic areas of the town where the need for better dental health is greatest, proportionally far fewer citizens turned out to vote on fluoridation. The large majority of those who did vote in these areas opposed the measure.

With respect to the polio immunization program, proportionally half as many persons in the low economic group attended the adult and preschool clinics as did those of the high economic group. This marked difference in response be-

tween the two economic groups is not found with school children. Since school children received the vaccine automatically unless the parents specifically objected, the apparent inconsistency strongly suggests a lower level of interest in the immunization program on the part of the low economic group. The low response to the adult and preschool immunization clinics by the low economic group might be partially explained by a higher percentage of working mothers in this group. This explanation, however, becomes less valid because the clinics were held, not only during the day, but also during the evening when presumably the parents would be free to attend with their preschool age children.

Previous studies of interest in fluoridation in Edmonton (population 350,000) suggested that interest is significantly distributed by such social criteria as age, education, and socio-economic status.⁷ The percentage of those devoid of interest in fluoridation decreased from 33 per cent in the low economic group to 4 per cent in the high economic group. The findings of the present study also tend to suggest a lower level of interest by the low economic group, not only in fluoridation, but in health matters generally.

Fluoridation proponents have frequently stated that a large voting turn-out increases the likelihood of success in a fluoridation plebiscite. The results of this study, however, cast considerable doubt on this assertion. It would appear that, in communities with a high percentage of low income families, a large voting turn-out is likely to result in a lower pro-fluoridation vote.

SUMMARY

Dental health in school children, interest response to a polio vaccination program, and voting results in a fluoridation plebiscite are compared to economic level in a community of 35,000 people.

Significantly better dental health was found in children from the high economic group as compared with the low. Adults and preschool children from the high economic group demonstrated significantly greater interest response to a polio vaccination program than did the low economic group. The difference in response by school children from the high and low economic groups was of only borderline significance.

A significantly higher percentage of voters from the high and middle economic groups turned out to vote in the fluoridation plebiscite than from the low economic group.

The high and middle economic groups voted strongly in favour of fluoridation while the low economic group voted strongly against.

Despite the strong support of the high and middle economic groups the preponderance of numbers in the low group was sufficient to defeat the fluoridation plebiscite.

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Mountains and the sea — part of Nova Scotia's Cape Breton coastline which you can tour before or after the C.D.A. National Convention in Halifax next June.

Current status of chewing gum in preventive dentistry

There is no evidence that chewing gum reduces caries; neither is there evidence that gum increases caries. There is no evidence that chewing gum without added therapeutic agents removes debris from the teeth. Chewing gum with or without therapeutic agents, however, reduces the amount of debris in saliva. Certain enzymes incorporated into chewing gum can retard the accumulation of soft accretions, stain and calculus on the teeth. Chewing gum with added therapeutic agents (synthetic vitamin K, nitrofurantoin, chlorophyll, fluoride compounds) may reduce tooth decay. Further large scale laboratory and clinical studies are needed before the dental profession can recommend or reject gum chewing as an effective method for improving oral health.

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Les caries dentaires ne sont ni aug-

mentées ni diminuées par la mastication de la gomme ordinaire. Il n'y a aucune évidence que la gomme, sans l'aide d'un intermédiaire thérapeutique, puisse enlever des dents les parcelles d'aliments. Par contre, avec ou sans l'addition d'un intermédiaire thérapeutique, elle réduit les débris d'aliments dans la salive. Certaines diastases incorporées dans la gomme peuvent ralentir l'accumulation des accroissements mous, des taches et du tartre sur les dents. La gomme aidée d'intermédiaires thérapeutiques (vitamine K synthétique, nitrofurantoin, chlorophylle, composés de fluor) peut entraver la carie des dents. La profession dentaire a besoin d'études de clinique et de laboratoire plus approfondies avant de pouvoir recommander ou rejeter l'usage de la gomme à mastiquer comme méthode d'amélioration de la santé buccale.

Almost daily dentists are asked whether chewing gum is harmful or beneficial to the teeth. A few dentists might answer

that chewing gum cleans the teeth, a majority would probably state that chewing gum increases tooth decay, but many are uncertain how to answer the question simply because they are undecided. The public is further confused by forceful ad-

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vertising which sometimes implies that gum is really beneficial to the teeth and at other times suggests that it is just psychologically 'satisfying.'

At the 1947 Michigan Workshop on Evaluation of Dental Caries Control Techniques¹ an attempt was made to clarify the subject of the effect of chewing gum on dental health. The following conclusions were reached at that time: (1) There is no satisfactory evidence for reduction or increase of acidogenic bacteria in the saliva. (2) There is little evidence that chewing gum is a caries producing agent. (3) There is no evidence that sodium fluoride in a chewing gum is effective as an anti-caries agent. (4) There is some evidence that menadione (vitamin K) may reduce the incidence of dental caries. (5) There is no evidence that chewing gum has a greater cleansing effect on the teeth than natural foods.

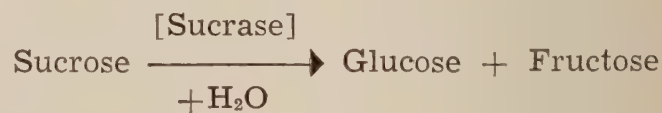
Since that time additional research has been done on the subject of chewing gum and dental health. Some of the studies have been concerned with chewing gum as a cleansing agent while in others therapeutic agents have been added to gum to reduce caries. In this paper the subject will be reviewed under two divisions: (1) chewing gum as a cleansing agent; and (2) chewing gum as a factor in the aetiology of caries.

CHEWING GUM AS A CLEANSING AGENT

In 1948 Volker² reported a clinical and laboratory investigation on the effect of gum chewing on salivary debris, calculus formation, and gingival inflammation. The study involved two 50 member groups of students and staff from Tufts University Dental School. The experimental group chewed two sections of Dentyne gum for 10 minutes after the morning and evening meals for a period of 18 months. At the conclusion of the study there was no difference in the amount of calculus formation or gingival inflammation between experimental and control subjects. However, both groups practised a high level of oral hygiene which could have masked any differences attributable to gum chewing. Therefore the results of

this study did not necessarily prove that gum chewing had no effect on gingival health. The effect of chewing gum on salivary debris was tested in the following way: 30 subjects from the total of 100 individuals under study ate one graham cracker spread with a tablespoon of peanut butter. Ten minutes later, five successive 1 ml. samples of unstimulated saliva were collected, the mouth was rinsed twice with 5 ml. of water, and the rinsings were added to the saliva samples. After the samples were centrifuged for 10 minutes the debris was measured. Fifteen minutes later the procedure was repeated except that each subject chewed gum for five minutes before salivary samples were collected. There was an 82 per cent average reduction in salivary debris when the test procedure included the chewing of gum. However, the conclusion that chewing of gum effectively reduces salivary debris is not unequivocal from the results of this study. The chewing gum and non-chewing gum test procedures should have been alternated in a second experiment so that gum chewing could be introduced before the first collection of salivary samples. One might have expected that a reduction in salivary debris would also result in a decrease in calculus formation, but this was not the case as the results of the 18 month clinical study showed.

In 1958 Chauncey³ compared the efficiency of gum, tooth paste, and mouth wash in reducing the hydrolytic enzyme activity of saliva. Enzymes of this type hydrolyze certain carbohydrates to monosaccharides. An example of such an enzyme is sucrase, which cleaves the disaccharide sucrose into monosaccharides, glucose and fructose, by the addition of a water molecule:



These enzymes are derived from oral micro-organisms and cellular debris. Therefore a decrease in debris reduces enzyme activity and the resulting carbohydrate breakdown. Chauncey found gum base with or without sugar less effective than mouth wash but more effective than

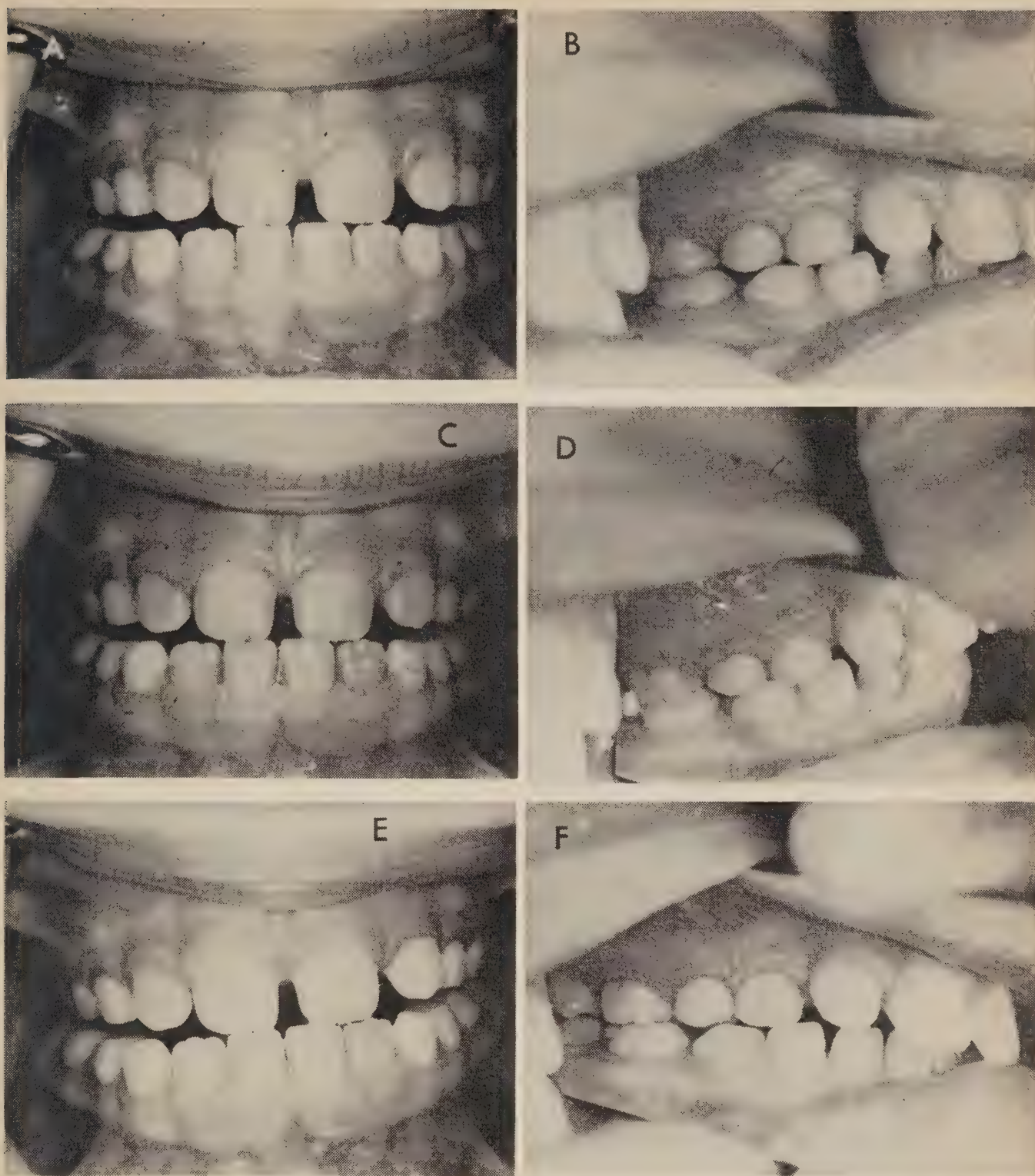


FIGURE 1 A, B, labial and buccal views of teeth of a seven year old boy 36 hours after a dental prophylaxis. C, D, same boy after chewing gum for 10 minutes. E, F, same boy after the teeth were cleaned by parent for one minute. Disclosing solution was used and the mouth was rinsed with water prior to each set of photographs.

tooth paste. When essential oils were added to the sweetened gum the overall effect was superior to both the tooth paste and the mouth wash. He attributed this finding to a possible bacteriostatic enzyme inhibition.

In 1961 Ennever and Sturzenberger⁴ added a pancreatin preparation (Viokase)

at a concentration of 1.5 per cent to commercial chewing gum and tested its effectiveness in reducing calculus formation. Pancreatin contains multiple enzymes such as amylase, trypsin and steapsin, all of which have optimum activity in a slightly alkaline environment. The rationale behind their use appears to be the possibili-

ty that they will break down proteins, fats and carbohydrates which remain on the teeth after a meal. If these residual food elements contribute to the formation of calculus their removal by enzymatic action might prevent calculus formation. Each of 19 subjects with a history of excessive calculus formation was given a prophylaxis and assigned at random (by coin toss) to a test or control gum for a period of eight weeks. Five sticks of gum were chewed daily (five minutes per stick) and after eight weeks each subject was graded for calculus formation. A second prophylaxis was given and each subject was assigned his alternate product for another eight week period. A pancreatin-containing gum reduced calculus formation 24 per cent. An additional carry-over effect occurred in those subjects who started with the test gum.

In 1963, Packman⁵ studied the effect of chewing gum containing mixed enzymes on the accumulation of soft accretions of calculus and stain. Two multiple activity enzymes were used, one of animal origin (pancreatin) and one of microbial origin (fungi). Some of the latter have comparable activity to some of the enzymes in pancreatin⁶ and are generally more potent over a broad pH range.⁵ Twenty-four milligrams of enzyme were added to a 3 Gm. stick of gum. After a prophylaxis, the subjects were divided into three groups and assigned one of the enzyme-containing gums of control. The subjects were instructed to chew five sticks of gum per day. Each subject continued with his habitual toothbrushing practice. After six months the gum containing the mixed enzymes of fungal origin was found more effective than the gum containing the

enzymes of animal origin (Table 1).

The above four studies suggest that under certain conditions gum chewing can be an aid in oral hygiene through the reduction of salivary debris and by preventing accumulations on the teeth. How effective this benefit is compared to toothbrushing is unknown. Using Arnim's^{7,8} staining method of demonstrating the presence of microcosms (dental plaque), toothbrushing appears more effective than chewing gum under the conditions of the following test (Figure 1). A seven year old boy, who had not brushed his teeth for 36 hours following a prophylaxis, chewed two pieces of Dentyne gum for 10 minutes. Photographs were then taken. Next, the teeth were cleaned with a toothbrush by the child's parent for one minute. The occlusal surfaces were cleaned by cross brushing and the buccal and lingual surfaces by moving the brush from the gingiva to the occlusal surface. The effectiveness of brushing over gum chewing appears quite evident. A similar effect has been demonstrated by Hein, Quigley and Quigley who described how an objective clinical study to evaluate oral hygiene procedures could be set up using a fixed camera technique incorporating a bite block.⁹

CHEWING GUM AS A FACTOR IN THE AETIOLOGY OF CARIES

In 1945 Burrill et al¹⁰ reported the results of a clinical and radiographic study involving three groups of volunteers. Group one, consisting of 55 individuals, chewed one gum pellet for 10 minutes

TABLE 1 Per cent retardation of soft accretions, calculus and stains by chewing gum with enzymes.

	Gum with enzyme of fungal origin	Gum with enzyme of animal origin	Control gum
Soft accretions	29%	16 %	2.5%
Calculus	45%	21.5%	8 %
Stains	19%	16 %	10 %

TABLE 2 Effect of chewing gum with furadroxyl on dental caries.

Material	Number of patients	Per cent reduction in caries attack rate	Per cent not developing new lesions
Gum + furadroxyl	30	80	60
Gum	25	5	7
Control (no gum)	25	0	2

after ingestion of food over a period of 18 months. The gum coating contained .75 mg. of 2-methyl-1, 4-naphthoquinone-sodium bisulphite compound (synthetic vitamin K), with the gum base containing a calcium carbonate filler. The second group, 45 subjects, chewed gum containing only calcium carbonate. The third group received no gum. No restriction of the diet was prescribed for any group. The synthetic vitamin K was used because it has an inhibitory effect on the anaerobic degradation of carbohydrates to lactic acid.¹¹

The synthetic vitamin K gum reduced the caries activity 40 per cent compared to the regular gum, and 66 per cent compared to the group which did not chew gum. The gum containing calcium carbonate alone reduced the occurrence of new cavities approximately half as much as the synthetic vitamin K gum. Lactobacillus counts were made at regular intervals during the study. The vitamin K produced an initial drop but had no persistent effect on the count. The authors commented at length on the difficulty of evaluating caries activity in such a study and concluded that the vitamin K gum probably did not inhibit the progress of caries already present.

Later, Fosdick,¹² commenting on methods of inhibiting caries, discussed this earlier study and noted that most gum manufacturers had begun to add calcium carbonate to their product. He thus concluded that postwar gum should be beneficial in reducing caries but in cases where little or no saliva is stimulated, gum may be harmful. He also concluded that more evidence was needed before either chewing gum or synthetic vitamin K could be recommended to the public

as a caries control procedure.

In 1948 Volker² studied the effect of commercial gum on dental caries in a study which lasted 18 months. The experimental group chewed two sections of Dentyne gum after the morning and evening meals for 18 months. Chewing gum had no effect on dental caries. DMF rates and the Snyder test revealed no differences between experimental and control groups. Subjects who were highly susceptible to caries remained so and those with limited susceptibility were also unaffected.

In 1951 Dreizen and Spies¹³ studied the effectiveness of chewing gum containing nitrofurantoin in the prevention of dental caries. Nitrofurantoin interferes with the ability of some acidogenic oral microorganisms to utilize thiamine and nicotinic acid, thereby inhibiting the formation of lactic acid. This study, which ran for 12 months, was composed of three groups. Group one, 30 individuals, chewed sugar-free gum containing 'furadroxyl,' a nitrofurantoin (5 nitro-2-furaldehyde), within four minutes after every meal. Group two, 25 individuals, chewed gum without furadroxyl, and Group three, also 25 participants, did not chew any gum. Dreizen's results (Table 2) were rather remarkable in that Group one had 80 per cent less carious lesions than the group which did not chew gum. There was no significant difference between Groups two and three. But as the authors noted, the results are inconclusive due to the small numbers involved in their study.

In 1957 Gerke and Klimt¹⁴ of Düsseldorf, Germany, tested the caries preventive effect of chewing gum containing chlorophyll. The study ran for one year with an experimental group numbering

102 and a control group of 37. There was a 30 per cent increase in cervical caries in the experimental group compared to a 50 per cent increase in the control group, indicating a possible benefit due to the chlorophyll.

In 1960 Toto, Rapp and O'Malley¹⁵ reported that supervised gum chewing for five minutes after each meal for 12 months produced no change in DMF rate. There were 275 in the experimental group and 276 in the control group, all school children.

In 1961 Hein¹⁶ compared plaque pH changes following gum chewing and toothbrushing. Two groups of six subjects abstained from regular oral hygiene procedures for three days prior to the test to the end of each series of experiments. Each subject rinsed the mouth with a 25 per cent solution of glucose prior to gum chewing or toothbrushing. One smooth surface and two interproximal pH readings were taken in both maxillary quadrants. Gum chewing for 10 minutes and brushing with water for 30 seconds were restricted to the right quadrant. Readings were taken in most cases at 10 minute intervals. Hein concluded that: (1) brushing with or without water had little effect on plaque pH; and (2) in most subjects the chewing of gum (Dentyne) resulted in a marked, rapid and sustained rise in pH.

These results must be evaluated in the light of recent findings by Sandham (1964).¹⁷ When a 30 per cent glucose solution was added to saliva in vitro and incubated, the pH fall was less than when a 5 per cent solution of glucose was used. This inhibition of pH fall with higher concentration of glucose was noticeable in as short a period as five minutes. It seems possible, therefore, that the brief period (30 seconds) of brushing with water in Hein's experiment could have reduced the glucose concentration to a level which actually favoured pH fall. The chewing of flavoured gum for 10 minutes, on the other hand, would likely have stimulated saliva flow with accompanying greater plaque buffering activity which would favour pH rise. Extension of Hein's experiments to include different concentrations of glucose and different

brushing and chewing periods is necessary for more conclusive results.

In 1961 Emslie et al¹⁸ incorporated radio-active fluoride (F^{18}) into sugar-free, synthetic, low calcium gum base. After the initial radio-activity of the gum was measured, the gum was chewed for one minute and its radio-activity redetermined. The procedure was repeated until the gum had been chewed for 10 to 15 minutes. The measurements indicated the rate of release of the radio-active fluoride from the gum. To test the fluoride uptake by the teeth the gum was chewed for 10 minutes immediately prior to the extraction of 21 sound teeth. The radio-activity within the extracted teeth and chewed gum was then measured. Eighty-nine per cent of the fluoride ion was released from the chewing gum in the first 10 to 15 minutes. This rate of release was not affected by the addition of 5 per cent calcium carbonate but was decreased by the addition of 2 per cent citric acid. However, the citric acid and resulting decrease in pH produced an increased uptake of F^{18} . The average uptake was about 20 m μ g. from a gum containing 100 m μ g. fluoride. When stannous fluoride was used instead of sodium fluoride the release of F^{18} from the gum was more rapid, but there was no evidence of a difference in uptake of F^{18} by the teeth.

In 1961 Lind et al¹⁹ studied the effect of fluoride-containing chewing gum on preventing new carious lesions in 229 children whose ages averaged about 11 years. Each stick of gum contained 25.5 mg. of potassium fluoride and yielded about 2.4 mg. fluoride ion when chewed for 10 minutes. Following a prophylaxis each subject chewed a stick of experimental or control gum. Two, and again, four weeks later the children chewed another stick of gum following supervised toothbrushing with a water soluble dentifrice. This procedure was repeated at 4.5 months and at 6.5 months giving the teeth a total of five exposures to the fluoride-containing gum. There were fewer new carious lesions (10 per cent in boys; 20 per cent in girls) in the group that chewed the gum containing added fluoride. The difference between the experimental and control groups was not

statistically significant, however.

The possibility of incorporating stannous fluoride in chewing gum was studied by Clark in 1962.²⁰ The constituents of chewing gum were placed in aqueous solutions of various tin fluoride compounds. The amount of tin and fluoride removed from the solution by the constituents of the gum (gum base, sorbitol and corn syrup) was measured after one hour. The gum bases removed 8.5 to 23.0 per cent of the stannous ion and 36 to 41 per cent of the fluoride ion. Sorbitol removed 59.5 per cent and corn syrup removed 50 per cent of the stannous ion. The variations between various stannous fluoride compounds tested were small except when potassium stannous fluoride was used. In this case there was a greater uptake of stannous ion by the gum base.

In 1964 Chauncey and Shannon²¹ studied the effect of sweetened gum base, and of cinnamon-, clove- and peppermint-flavoured gums on salivary gland secretion and on enzyme production of oral micro-organisms in whole saliva and in the dental plaque. Findings were as follows: (1) Chewing gums with a more resilient consistency and containing sugar increased salivary gland secretion. (2) Chewing gum for 10 minutes or longer produced a decrease in whole saliva enzyme levels. (3) Cinnamon gum exerted the strongest immediate effect and clove gum the best overnight effect in reducing whole saliva enzyme levels. (4) The essential oils added to gum base for flavouring appear responsible for some of the observed anti-enzyme and bacteriostatic effects. (5) Neither sweetened gum base, cinnamon gum or clove gum imparted any measurable bacteriostatic or anti-enzymatic effect to buccal plaque material removed from cuspids, bicuspid and molar teeth. The authors emphasized that their experiments "were not designed to test the performance of chewing gums as oral hygiene aids."

DISCUSSION

There is some evidence that chewing gum with or without therapeutic agents may remove debris from the saliva. From this standpoint one might recommend chewing gum as an aid in oral hygiene.

However, the role of salivary debris in oral health has not been clearly established and there is no conclusive evidence that gum chewing removes debris from the teeth. Therefore, chewing gum cannot be advocated as a cleansing agent for the teeth until further research indicates otherwise.

The results that have been obtained in preventing the accumulation of debris on the teeth by the addition of enzymes to gum look promising. Much more research is needed, however, particularly with regard to possible undesirable systemic effects from long-term ingestion of the enzymes.

There is still some doubt as to the role of chewing gum in the aetiology of caries. It is true that most of the sugar is released from the gum in the first 10 minutes of chewing,²² and that the increased salivary flow may carry this away. However, recent work by Gibbons and Socransky²³ on carbohydrate storage by oral bacteria indicates that the released sugar may be stored by the bacteria in the plaque for later metabolism. Sandham¹⁷ has confirmed these findings. That such a condition might lead to an increase in caries appears to be refuted by Volker's study² in which there was no difference in caries between students who chewed gum and other students who did not chew gum during an 18 month period. However, the groups in Volker's study practised a high level of oral hygiene, a factor which could have masked any differences. Furthermore, the number involved in this study (50 control, 50 experimental) was quite small. In the same study, there was no resulting decrease in calculus formation or gingival inflammation in the gum chewing group despite the fact that gum chewing appeared capable of reducing salivary debris. Further studies are required, in particular, on a large group with poor oral hygiene, before dentists can recommend or reject gum in the management of dental caries.

The negative clinical results obtained by Lind et al¹⁹ from chewing gum containing fluoride do not rule out the possible effectiveness of fluoride-containing gum as a caries control measure. The amount of fluoride released from one stick of gum in Lind's study (2.4 mg. in

10 minutes) is quite small. This is no more than the amount of fluoride that would be ingested in drinking water by the average 9-10 year old child in a three day period if the water contained 1 ppm fluoride.²⁴ Caries reduction might be obtained by the chewing of gum which would release approximately 1.0 mg. fluoride and by continuing such a daily chewing regimen over a prolonged period of time. The children in Lind's study used the fluoride-containing gum only five times during the entire study period.

A promising line for further research is the addition of phosphate compounds to gum for caries prevention. McClure²⁵ has suggested that the caries reducing effect of increased phosphate in the diet of animals is due to local factors in the oral environment. Possibly, higher levels of oral phosphate may similarly be achieved in man by the use of chewing gum containing added phosphate.

Regardless of the role that chewing gum plays in oral health, the youth of today will undoubtedly continue to chew large quantities of gum. Although most of hitherto reported studies concerning chewing gum have been inconclusive, this large constant consumption of chewing gum has great possibilities in preventive dentistry.

SUMMARY

There is no evidence that chewing gum reduces caries; neither is there evidence that gum increases caries. There is no evidence that chewing gum without added therapeutic agents removes debris from the teeth. Chewing gum with or without added therapeutic agents reduces the amount of debris in saliva. Certain enzymes incorporated into chewing gum can retard the accumulation of soft accretions, stain, and calculus on the teeth. Chewing gum with added therapeutic agents (synthetic vitamin K, nitrofur, chlorophyll, fluoride compounds) may reduce tooth decay but conclusive proof awaits large scale clinical trials. Large scale laboratory and clinical studies are needed before the dental profession can recommend or reject gum chewing as an effective method for improving oral health.

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John H. Samuel: Montreal dentist and vaccination martyr

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Recently, as in almost every second year, we have had large headlines in the Montreal newspapers about parents who object to vaccination of their children^{1,2} The most recent of these episodes had an added news value: the parent in this case had taken courses at a medical school, although he was now a chiropractor.

Vaccination is not a dentist's business, but in this city it was the death of a dentist, along with other factors, which quietened the mob determined to intimidate civic authorities when vaccination was made compulsory in 1885. Publicity surrounding this death also went a long way toward changing the dominant church policy of the day.

1885 was a hard year for the Montreal health authorities. Smallpox had broken out during the summer. The city was literally isolated after Sir Francis Hincks, the pre-confederation prime minister, died of smallpox on August 18.³ There was no compulsory vaccination in the city. Anyone without a recent vaccination certificate was taken off the trains going to New York, Boston, Toronto, or Quebec City.⁴ Not only were a large number of the populace opposed to vaccination, but some local physicians were not in favour of it either.

The cause of vaccination had gained ground since the discovery of this phenomenon by the English physician, Edward Jenner, in 1796. Legislation making vaccination compulsory was first introduced in Bavaria in 1807.⁵ Denmark followed in 1810, and Sweden in 1814.

Of course, an energetic minority of physicians in Montreal had agitated for compulsory vaccination for years. William Osler, who left Montreal in 1884, had during the previous epidemic of 1875-76 been in charge of the 'death house' as the isolation ward of the Montreal General Hospital was known. He used the fee for this dangerous work to help pay for 15 microscopes for his classes in the 'Institutes of Medicine' (pathology, histology and physiology), the first such laboratory equipment at McGill University. Osler also took the cause of compulsory vaccination to the public. He lectured to the Natural History Association and any other group that would give him a hearing.⁶

At this time Montreal hospitals receiving public assistance were also compelled to admit smallpox patients. As a result, other patients with minor ailments often contracted smallpox—so much so that surgeons hesitated to send their more affluent patients to hospital, and physicians never did. Peter Redpath, president of the Montreal General Hospital board, spent much time in the legislature seek-

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ing appropriate amendments to the hospital's charter and grants.⁶

Physicians who opposed vaccination were not much influenced by what their fellow Montrealers had to say, no matter how brilliant these may have been.⁷ Possibly the eyes of these physicians were riveted on Paris where medical opinion was divided between supporters of the germ theory of infection, such as Louis Pasteur, and their opponents who violently attacked this theory, proclaiming instead their belief in the spontaneous generation of disease.⁸

Pasteur's successful demonstration of a rabies vaccine provided considerable support to the champions of vaccination.⁸ Though hundreds of Montrealers died from smallpox during the summer of 1885 before Sir Francis Hincks, his death signalled the start of more active measures.⁵ Whenever compulsory vaccination had previously been mentioned, some legal impediment was discovered—the city charter did not allow it, or it was a federal, not a provincial matter.⁹ But with the death of the former prime minister, the civic board of health, with Hugh Graham (later Lord Atholstan) and Richard White (later finance minister under Sir Robert Borden), convinced the health authorities and city fathers that compulsory vaccination would be supported. The director of the health department formally recommended to Mayor Honoré Beaugrand compulsory vaccination, isolation of infected patients, and placarding of houses where infection had occurred.⁷ The mayor, with great courage, for much of his electoral support was among the objectors, quickly disposed of any real legal difficulties and the recommendations were enacted into law.

Soon thereafter a much needed vaccination clinic in the city's east end was attacked by a mob and everything of value destroyed; even the telephone was stolen. Thereupon the civic board of health, the health department, or both, decided to convert the buildings at the Exhibition Grounds into an isolation hospital and vaccination clinic. The Bishop granted a request that workmen be allowed to work on Sunday.⁴ The militia was also requested to furnish a protective

guard while the conversion was in progress. The Victoria Rifles provided a guard, of which Priv. John H. Samuel was a member. This regiment, in which W. G. Beers served in 1865 against the Fenians, was disbanded in March this year.

Rain fell that dark Saturday night of October 3. Col. Crawford was advised by telephone that a large number of rioters were on their way from St-Henri, intent upon destroying the partly completed Mount Royal Hospital. (This turned out to be about 100 persons who were satisfied to burn the mayor's picture and make speeches.)¹⁰

Col. Crawford had a large number of men on hand to reinforce the guard but, before deploying them, he ordered that all rifles were to be unloaded. A sergeant made the rounds of the sentries with the order to unload all rifles, and while the sentry with a loaded rifle was emptying his weapon it slipped and discharged. Private Samuel, who accompanied the sergeant, was hit and died within a few hours.¹⁰

There was a military court of inquiry which turned its findings over to a Coroner's Jury of which W. G. Beers was foreman. The jury heard every extensive evidence and then returned the verdict that "the said John Samuel came to his death by accidental discharge of a rifle which had been loaded through misinterpretation of an order."

Five years earlier, on July 21, 1880, J. H. Samuel had been granted Licence No. 67 by the Board of Examiners of the Dental Association of the Province of Quebec.¹¹ He had been in practice for five years, and was able to join the St. George Snowshoe Club and the Montreal Amateur Athletic Association — both fairly expensive clubs — which supports the obituary statement that he was young and successful in his work.¹²

There was a private service in his father's home, attended by friends and dental associates.¹³ The body was then conveyed to St. Paul's Church. The funeral service, a most impressive one, was conducted by Rev. James Barclay, pastor of the church. In the course of his sermon, Rev. Barclay said:¹³

"There is a time to speak and a time to be silent. An occasion such as this is one for few words and not for many. Every death is accompanied by sorrow, but the circumstances of this are especially sad. Our dear young brother, whose body we are going to commit to the grave, died, in a sense, for this city, a martyr to lawlessness and riot, one of many victims of the lamentable ignorance and prejudice which have brought such disaster on our fair city. . . . May the city hear his voice and, as it mourns his death, learn, as it has not learned from the living, to be wiser and more faithful in the keeping of God's law and health and order. May his comrades and companions hear his voice. He died as he had lived in the faithful and cheerful discharge of his duty."

Detachments from four regiments made up the military party. Mayor Beaugrand walked with Col. Crawford, and behind them came the delegates from the Board of Health and members of the congregation. The athletic clubs were also represented.¹³

It would be nice to report that the smallpox epidemic now subsided. It did—but very, very gradually, and only after more than 3,600 people had died.¹⁴

The Bishop's permission for the workmen to work through Sunday signified approval of the work; moreover, at least two parish priests spoke in support of vaccination in their respective churches.⁴ Thus the anti-vaccination group was losing ground when on Monday morning the news of the death of Dr. Samuel was fully covered in the newspaper. The pomp and ceremony of the military and civic funeral convinced the dissident groups that the law would be enforced if necessary. Fortunately, this proved unnecessary. The city settled down to the hard work of a house to house vaccination which effectively reduced the incidence of smallpox and gradually eliminated this scourge.⁹ To be sure, some individuals continued to object then, as now. But, due to the constant vigilance of the city's health department, very few present-day Montrealers are ever likely to see a case of smallpox.

Five years later city officials, representatives of the Victoria Rifles, and representatives of The Dental Association of the Province of Quebec gathered at the graveside to unveil a monument to John

H. Samuel.¹⁵ The monument consists of a tall square base surmounted by a broken pillar, all of grey granite. The broken pillar symbolizes a life ended long ere it had reached its allotted span. On the pedestal are inscribed the arms of the Victoria Rifles Association and beneath is the following inscription:

"In Memory of John H. Samuel L. D. S. A member of the Victoria Rifles of Canada who was accidentally shot while on duty with the Regiment at the Mount Royal Hospital Grounds, 3rd October 1885. Erected by The City of Montreal, The Victoria Rifles, and The Dental Association of the Province of Quebec, as a tribute of respect and regret, for the loss of a young life of high promise. Born 31st October 1859, Died 4th October 1885."

The Samuel family did not approve of the prominent first burial place near the gates of Mount Royal Cemetery and later had the body exhumed and reburied in a more secluded section where other members of the family have been buried from time to time. This second plot is close to that of former Mayor Beaugrand who had introduced the vigorous measures to stamp out smallpox. Beaugrand had been excommunicated for introducing these measures in opposition to the church policy of the time. Later, when his program proved effective, he was offered re-instatement. But he declined to re-enter his church, and upon his death was buried in a Protestant cemetery.¹⁶

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Interrelationship of oral and general health

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The organism consists of parts, but is more than the sum of its parts, and if these parts are taken to pieces the organism is destroyed, and cannot be reconstituted by again putting together the severed parts.

J. C. Smuts, 1926

The mouth is plagued by more disease than any other part of the body. It attracts a plethora of specialists, yet its total health is the concern of no specialty or profession. The oropharyngeal region accordingly presents a greater challenge for an interdisciplinary approach to treatment of its diseases than any other comparable part of the body. The establishment of multispecialty health teams to treat the whole individual rather than his parts, and widespread institution of all available preventive measures will help in the attainment of total health.

La bouche est affectée d'un plus grand nombre de maladies que toute autre partie de l'organisme. Un très grand nombre de spécialistes s'y intéressent mais cependant aucun d'entre eux n'est responsable de son ensemble. La région oro-pharyngée est donc celle qui se prêterait le mieux à un traitement d'équipe. C'est en mettant sur pied des équipes formées de spécialistes de toutes les disciplines que l'on parviendra à traiter l'individu dans son ensemble. C'est en mettant en vigueur toutes les mesures préventives disponibles que l'on parviendra à obtenir une santé parfaite.

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In this age of ever-increasing specialization of the health professions, with consequent division of the body into ever-smaller compartments, it becomes increasingly necessary to retain a 'holistic' concept of the body's functional unity and

malfunctional disruption. "Unity of action, which is characteristic of the whole, shows itself in the marked power of regulation and correlation which the whole appears to possess in respect of its parts. This perhaps is the most striking feature of organic wholes; however complex they are, a certain balanced correlation of functions is maintained."¹ The complex interdependence of the body's myriad functional activities needs to be stressed with greater emphasis than ever before. It cannot be disputed that the health sciences have progressed enormously in the attainment of their aims by virtue of specialization allowing detailed investigation of restricted parts of the body. However, the resulting establishment of numerous disciplines within the total health field requires exceptional effort on the part of specialist practitioners to avoid narrow concepts of health and disease in keeping with their narrow fields of interest. Already the art of healing has suffered at the hands of the science of healing in the modern practice of medicine and dentistry.

The concept of the patient's total welfare needs to be more highly regarded than the care of his individual parts, which is, unfortunately, the increasing trend of medical and dental practice today. There is generally a need for greater cognizance by the health specialist of the scope of health disciplines other than his own, and moreover, a recognition of the competencies and limitations of each of the numerous specialties.² "We speak with more urgency of the need to treat the whole person."³ We need to acquire a deeper understanding of the intricate relationship between, for example, dental health and mental health, and between mental health and other physical conditions and processes.

Despite the segmentation of modern medicine by the specialists into its disparate parts, the modern concept of disease recognizes in theory, if not in practice, the inter-relationships of physiological mechanisms maintaining homeostasis and health. Breakdown of any one physiological system necessarily has repercussions upon the functioning of all the body's systems, and even an imbalance between the systems of the body ex-

presses itself as disease. The oral cavity, being common to several of the body's systems, is in a particularly vulnerable position in the event of the breakdown of any one of the systems it serves, and whose integrity and proper functioning is essential to the maintenance of general health. The oral cavity in turn is merely part of a larger stomatognathic system serving respiratory and speech as well as masticatory functions. Apart from the dental elements unique to the stomatognathic system, it contains bones and joints, muscles and glands, nerves and blood vessels and lining mucosae that do not differ from those found in any other part of the body. These structural elements of the jaws and mouth undergo the same physiological and pathological processes as found elsewhere in the body. Moreover, the condition and functioning of those elements peculiar to the mouth (teeth and periodontium) are not of self-contained importance; their state of health implicates all the rest of the body. This was recognized nearly 200 years ago by John Hunter when noting, "The importance of the teeth is such that they deserve our utmost attention, as well with respect to the preservation of them, when in an healthy state, as to the methods of curing them when diseased. They require this attention, not only for the preservation of themselves, as instruments useful to the body, but also on account of other parts with which they are connected; for diseases in the teeth are apt to produce diseases in the neighbouring parts, frequently of very serious consequences."⁴

ORAL PSYCHOSOMATIC CORRELATIONS

The buccal cavity not only serves as a passageway to the gastro-intestinal system, but being also the source of vocal communication, is, in a very real sense, the mouthpiece of emotional expression. This is true not only for the articulation of words, but also in determining facial demeanour. Smiling, grinning, grimacing, pouting, scowling and gnashing of teeth are all oral manifestations of various moods. The mouth serves from birth onward as the font of emotional satisfaction in satiating hunger and slaking thirst, and

expressing and receiving erotic stimuli by osculatory activities. Deprivation of these and other satisfactions are once again expressed through the mouth by thumb-sucking, stuttering, lip-licking, nail-biting and smoking. The sensations of appetite and nausea, with all their complex psychological implications, are often mediated through stimuli received by oral sensory receptors, particularly those of taste and tactile sensors. Appetite is an acquired rather than an inborn sensation like hunger, and the mouth both determines and reflects food tastes. In this context, the terms 'taste' and 'palatable' have psychological as well as physiological connotations.

"Early oral satisfaction and dissatisfaction have been indicated as possibly affecting facial musculature and posture development and the patterning of personality and life attitudes."⁵ "Awareness of the importance of emotions, temperament or personality to health, both general and oral, is becoming more appreciated by physicians and dentists."⁶ It is certainly necessary to seek extra-oral factors in explaining the nature of some of the more perplexing oral diseases such as ulcerative necrotizing gingivitis, aphthous ulceration of the mucosa, lichen planus, herpetic stomatitis and temporomandibular articulation disorders. "We know now that bodily changes may be brought about by mental stimuli, by emotion, just as effectively as by bacteria and toxins, and that physiological changes accompanying emotion may disturb the function of any organ in the body."⁷ Conversely, malocclusion and deformities of the dento-facial complex are of major significance in relation to mental health and social well-being. Despite the apparent modernity of these findings, essentially, these facts were known centuries ago and summed up succinctly by the Romans in the aphorism, *mens sana in corpore sano* (a healthy mind in a healthy body).

SPECIALTIES CONCERNED WITH THE MOUTH

The oro-pharynx serves as a focal point of more specialties than any other single part of the body. It is of concern to the anaesthetist in gaining access to the

respiratory system. It is within the domain of the oto-rhino-laryngologist, the maxillofacial, the plastic and the oral surgeon as part of their chosen fields in which to perform the healing arts. It is the very special territory of the speech therapist, and an area of much significance to the nutritionist, dermatologist, haematologist and allergist. The expressions portrayed by the mouth are subject to the scrutiny of the psychiatrist. Above all, the mouth, containing as it does the masticatory system, is the pre-eminent field of interest of a whole host of subspecialties that have proliferated within the dental profession. The endodontist, the exodontist, the paedodontist, the periodontist, the prosthodontist, the orthodontist, the dental pathologist, the restorative dentist, the general dental practitioner and the auxiliary dental hygienist all have a stake to claim in the maintenance of oral health.

With so many specialists subservient to oral ills, it would appear that much must go wrong with the mouth, and in fact does. Yet, despite this apparently intense interest focussed upon the oral cavity by numerous specialists, its total health is the concern of no one specialty or profession. The mouth, in attracting a plethora of attendants, paradoxically suffers a paucity of overall attention. It is unfortunately too true that the average physician considers the mouth as an orifice through which to examine the tonsils and pharynx, and the average nurse considers it a convenient aperture in which to pop a thermometer. Even the time-honoured tradition of staring at the tongue as a diagnostic procedure has been replaced by sophisticated parenteral laboratory tests. Nor is the average dentist innocent of a proper regard for the mouth as a mirror of the total being. This failure to fully perceive the mouth not only as an integral part of the body but also as a key element in the development and maintenance of the organism has led to the sorry state of oral health that prevails in all too many of our populace. This state of affairs properly brings oral health into the realm of the public health worker.

The oropharyngeal region accordingly presents a greater challenge for an interdisciplinary approach to understanding its

functions and the treatment of its diseases than any other comparable part of the body. Some evidence of this necessary holistic concern for total oral health, in the face of inevitably increasing specialization, is seen in the establishment of multispecialty units such as 'cleft palate centres.' Here, plastic surgeons, orthodontists, prosthodontists and speech therapists, to name but four specialties, combine their skills and resources for the patient's total welfare. Such an example needs to set a trend for the future for totally effective therapy.

THE MOUTH AS A MIRROR OF THE BODY

The mucosa of the oral cavity is an unrivalled portrayer of conditions prevailing in other parts of the body. The proximity of the blood capillaries to the mucosal surface allows immediate evaluation of the colour of the blood, with all its attendant diagnostic indications. The pallor of the anaemic, the yellow of the jaundiced, the blue of the cyanosed and the purple-red of the hypertensive and polycythaemic individual are all immediately apparent to the diagnostician. The haemorrhagic and leukaemic blood dyscrasias all too frequently first manifest themselves as lesions of the oral mucosa. The Koplik's spots of measles, the fiery red strawberry tongue of scarlatina and the tender parotid swelling of mumps are all sought for by the paediatrician in the oral cavity. Even the febrile state of these diseases is confirmed by the thermometer placed in the mouth.

The unpleasant side effects and complications of certain systemically administered drugs often occur in the mouth. The gingival hypertrophy of diphenylhydantoin (Dilantin) therapy in epileptics, the mucosal ulceration of drug-induced agranuloctyosis, the discoloration of developing teeth in tetracycline and excess fluoride administration, the pigmentation of the mucosa in methaemoglobinaemias and heavy metal deposits, and the black hairy tongue of antibiotic therapy, are but a few examples of the intimate interconnection between oral and general health.

The rapid mitotic rate of the oral

mucosa, resulting in the epidermis being totally replaced within two weeks in a child, and within a month in an adult⁸ demands a high rate of metabolic turnover. In this respect, the oral mucosa becomes a very rapid and sensitive detector of nutritional deficiencies. "Hardly any other single area of the body reflects nutritional and metabolic dyscrasias as rapidly, as frequently and as clearly as the oral cavity. The mouth is a veritable storehouse of nutritional information. It is ironic indeed that the very cells which have first contact with ingested food are among the first to show deficiency aberrations."⁹ The initial lesions of ariboflavinosis, pellagra and scurvy manifest themselves respectively as a painfully reddened tongue, a desquamation and inflammation of the lips and bleeding and hypertrophy of the gingiva. The buccal epithelium will eventually reflect the hyperkeratosis of prolonged vitamin A deficiency, and defective enamel formation and delayed eruption of the teeth are the outcome of inadequate vitamins A and D in infancy.

A number of hormonal disturbances have oral repercussions, the most frequent of which is gingival hypertrophy during pregnancy. Less frequently seen is the brownish pigmentation of the oral mucosa displayed in the adrenocortical deficiency syndrome of Addison's disease, or the bone rarefaction of the jaws seen on dental radiographs in hyperparathyroidism. This osteoporosis of the alveolar process may be one of the earliest signs of parathyroid excess, while conversely, the enlargement of the mandible seen in acromegalics is only a late oral manifestation of hyperpituitarism. Whatever the changes that may occur in the oral structures as a result of nutritional or hormonal derangements, the signs and symptoms that present themselves in the mouth are often striking, and moreover, are readily accessible and painlessly procured.

DENTAL HEALTH AND DISEASE

The human mouth is one of the most septic areas of the body, and this factor is of no little consequence to the bac-

teriolgologist. While the concept of oral focal sepsis as a source of systemic disease remains a controversial issue, there is no doubt that the mouth can be a potent source of bacterial infection. It is therefore not surprising that the dental structures found within the mouth are so frequently afflicted by bacterial disease, surrounded as they are by a permanently septic environment. The teeth and their supporting tissues seldom, if ever, escape from bacterial invasion. Some degree of gingivitis and periodontal disease occurs in the vast majority of human mouths at some time in their lives, generally past middle age. "Periodontal disease is one of the most widespread diseases of mankind. No nation and no area of the world is free from it, and in most, it has a high prevalence, affecting in some degree approximately half the child population and almost the entire adult population."¹⁰ The significance of these facts when related to the general health of the population is of tremendous consequence. The presence of a diseased periodontium undoubtedly predisposes to transient bacteraemias during chewing on loosened teeth,¹¹ which is a matter of serious implication to patients with damaged heart valves, or those suffering inflammatory renal disease.

The role played by the oral flora in converting highly refined carbohydrates into acids capable of decalcifying tooth enamel, producing the initial carious lesion, is currently the subject of intensive study. The reaction of enamel to this attack is a most complex one, but dental caries is no longer a mysteriously produced 'hole in a tooth.' It is admittedly a somewhat unique disease process which defies classification into the accepted categories of allergies, inflammations, dystrophies or cancers, of which it is none; but it is indisputably a disease of bacterial origin.

Although basically a bacterial disease, the mechanism of dental caries' destruction of the hard dental tissues involves a constellation of interrelated factors, including heredity, that have not yet been unravelled. Because of the fact that 'dental caries' is never mentioned on death certificates, its significance as a disease is under-estimated, despite it being, without a doubt, among the most

prevalent of human afflictions. Yet, its cost in terms of human misery and inconvenience — apart from the enormous economic burdens it imposes — can hardly be over-estimated. Despite all this, it is a disease that is almost entirely preventable.

Statistics relating the incidence of the disease are appalling. A recent study noted that 97 per cent of the first molars of individuals between 12 and 23 years of age were afflicted with decay, and some 40 per cent of these young people had lost one or more of their first molars as a result of dental caries.¹² Dental caries is, of course, not the only cause of tooth loss, but when the other major cause of tooth loss — periodontal disease — is also considered, the results are even more catastrophic. Beyond the age of 35 years, periodontal disease becomes the major cause of tooth loss, which, when combined with dental caries, results in more than half the natural teeth being lost before the age of 40 years. After age 60, approximately 40 per cent of the population have no natural means of mastication.¹³

Aside from the impaired speech and sunken facial appearance resulting from tooth loss, the edentulous state is one of serious consequence to the body's general welfare. Difficulty in masticating food with artificial dentures or with no teeth at all leads to either improperly comminuted food or to the choice of soft, pappy, over-cooked, non-nutritious food-stuffs. In either case, varying degrees of malnutrition will inevitably occur. The swallowing of improperly masticated food imposes severe digestive difficulties upon the gastro-intestinal tract, generally in old age, when it is least capable of dealing with the situation. It has been found that primary gastritis occurs eight times more frequently in the toothless patient than in the patient with an efficient masticatory apparatus.¹⁴ The malnutrition incipient to this situation leads to avitaminosis syndromes, which, when appearing in the mouth as perlèche, cheilosis and a tender tongue and oral mucosa, restrict mastication even more. This initiates a vicious cycle of ever-increasing malnutrition promoting less and less mastication.

There is a dire need for greater appli-

cation of scientific knowledge to prolong the usefulness of the masticatory mechanism by the preservation of teeth to cope with this growing health problem. With the prolongation of life, this problem is likely to increase in frequency with the rising number of senior citizens.

ORAL PARAMETERS OF GENERAL DEVELOPMENT, DISEASE AND GENETICS

Apart from the clinical information of immediate importance that might be gleaned from the oral cavity, a study of the eruption dates and state of calcification of the teeth provides an invaluable source of information regarding the current age, growth, and development, and the past nutritional and health status of individuals and populations. Developing teeth act as kymographs for adverse conditions affecting the body by permanently recording severe metabolic disturbances during childhood, and revealing the extent and time of the affliction when they erupt years later. As an example, with radio-active fallout, the history of ingestion of strontium⁹⁰ is permanently recorded in the teeth of children. When studied in large groups, the epidemiology of past conditions can be established. This was the mode of discovery of the marring and, incidentally, beneficial effects of water fluoridation upon teeth. Moreover, the shapes, sizes, patterns and numbers of teeth provide valuable information for genetic and anthropological studies. Their genetic stability and ease of accessibility in both the living and the dead, coupled with their post-mortem durability, make teeth prime organs of information to geneticists, forensic odontologists and anthropologists. A curious paradox is revealed here, for, whereas teeth are the most susceptible of all the body's tissues to decay and dissolution during life, they are noted for their resistance to destruction after death.

Anomalies of development of the orofacial complex are also of increasing concern to the health professions. Dental malocclusions, cleft palates, hare-lips and the like are reflections of genetic endowments, which, because they are being treated, allow their perpetuation to prog-

eny in ever-increasing numbers. Between 20 and 60 per cent of North American children — depending upon the criteria used — display malocclusion of the teeth and jaws. This makes malocclusion a health problem of major magnitude. Moreover, the flood of new drugs in common usage always holds the danger of unsuspected teratogenic agents adding to the number of malformations. With the life-saving procedures now being applied to those previously condemned to an early death by their handicaps, the treatment and care of the disabled by multi-specialty health teams will assume greater importance than ever before.

PREVENTIVE MEASURES

"The movement in health services for treatment of the body as a whole calls for closer relationship of all those qualified to treat any one part of the body. The fact that health care has become more and more a basic right rather than a privilege has significance. The emphasis being placed on meeting the needs rather than the existing demands is of importance, particularly in dentistry."¹⁵ The accentuation in any public health program should be on prevention rather than on treatment. The means by which many of the foregoing oral ills can be prevented are presently available to us, but much remains to be done. "If research in dental public health practice is to have any real value, it must be recognized not as a replacement or substitute for action programmes, but as a buttress to them — a method of making action more meaningful."¹⁶ The application of current scientific knowledge could drastically reduce the incidence of dental caries by fluoridation procedures. That this preventive measure, which is in keeping with the best of public health principles, is not being fully implemented is an indictment of our public health system, and is a supreme example of the "paradox of our age, which is, of course, the enormous gap between our scientific knowledge and skills on the one hand, and our . . . arrangements to apply them to the needs of men, on the other."¹⁷

Dental disease is a public health prob-

lem of unrealized magnitude, for the dental treatment rendered to the Canadian people does not nearly meet the real dental needs of the population. Oral and dental health cannot be divorced from general health, for health is not a divisible entity. The total health of an individual encompasses all the body's component parts, and moreover, should not be merely the absence of disease or infirmity of these parts but should be expressed as a full enjoyment of life, comprising complete physical, mental and social well-being.

SUMMARY

The division of the body into numerous compartments by health specialists is a fact of modern medicine. Yet this segmentation is a contradiction of the body's unity of function and the interdependence of its systems. The health and diseases affecting the oral cavity cannot be divorced from general health, even if only because the mouth serves so many of the body's systems. The mouth mirrors the state of health and disease of much of the rest of the body. This is reflected in the great number of specialties concerned directly or indirectly with the oropharyngeal region. Yet despite this attention devoted to the care of the mouth, the oral cavity is plagued by more disease than any other part of the body. The permanently septic state of the mouth results in a tremendously high incidence of dental and periodontal disease, with debilitating consequences upon general health. The inefficiency of mastication accompanying loss of teeth is liable to lead to gastro-intestinal upsets and malnutrition, particularly in the elderly. The need to implement and expand measures for the

treatment, and more importantly, the prevention of oral and dental disease is a matter of some urgency in view of the potentially increasing number of edentulous senior citizens and the rising incidence of congenital and inherited malformations of the mouth and jaws. The establishment of multispecialty health teams to treat the whole individual rather than his parts, and the widespread institution of preventive health measures already available to us could help attain the full enjoyment of total health.

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Equilibrium between general and specialty practice

Specialization, as G. H. Sperber points out elsewhere in this issue, is a mixed blessing — conferring enormous benefits on the progress of health care, yet simultaneously tending to limit the vision of the specialist and sometimes detracting from the role of the general practitioner. Balancing the benefits of specialization with the equally desirable advantages of total health care rendered by the general practitioner is emerging as a major challenge for the health professions — a challenge that is susceptible to varying solutions according to the geographic environment in which the principals enact their respective roles.

Specialization has made marked strides in North American dentistry. In Europe, on the other hand, the profession displays a very cautious attitude toward specialization. Held,¹ of Geneva, acknowledges the advanced development of dental specialization in North America but contends that a similar trend would be undesirable in Europe. He singles out periodontics as an example and claims that the American concept of this discipline is far too restricted. The general practitioner consequently tends to overlook or ignore this aspect of his patients' welfare. Periodontics, he explains, embraces all aspects of day to day practice. It is absolute folly to embark on any restorative procedure, orthodontic treatment or prosthetic replacement without first considering the repercussions this might have on the periodontium. Turning to that popular convention topic, 'oral reconstruction,' Held labels this as a sophisticated form of periodontal treatment which requires all the skills and knowledge that a capable practitioner can muster. To fragment oral reconstruction into disparate and quasi separate disciplines would be a complete repudiation of the body's unity of function and the interdependence of its parts — in short, a disservice to the patient.

Graduation confers upon the newly qualified dentist a cachet of reasonable competence in all phases of dental practice. His natural desire to pursue all phases of practice must be constantly nourished, not stifled by the proliferation of numerous disciplines that pre-empt significant areas of practice. This, of course, does not imply that there is no room for those with special competence in restricted fields of practice. Quite to the contrary, we need a small nucleus of these 'specialists' to provide consultant, teaching and research services not available from other practitioners. This elite must set the pace and blaze the trail in the quest for new knowledge. But their contributions must be matched by constant improvement in the competence of general practitioners and in the quality of care which they render.

To strike such a balance is no mean task; yet it is a task that must be faced resolutely, particularly at a time when the new Royal College of Dentists of Canada embarks on its important mission with respect to specialty practice.

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Journal français

Il y a plusieurs mois, la section française du *Journal de l'Association dentaire canadienne* s'est intégrée au Journal proprement dit, cessant ainsi de se tenir à l'écart. D'une façon générale, ce changement a été bien accepté et très peu de gens ont protesté. Il ne s'agissait en effet, que d'une légère modification à la présentation extérieure. Cependant, lorsqu'on a voulu placer la totalité du Journal ainsi intégré sous l'autorité d'un rédacteur bilingue qui semblait extérieurement appartenir au groupe anglophone, on a soulevé une protestation générale et violente de la part du Canada français. Une question de principe était en jeu, on enlevait le chien de garde qui devait veiller au respect de nos droits, c'était intolérable.

Les autorités de l'Association dentaire canadienne et le Conseil du journalisme plus particulièrement, ont rapidement pris les mesures nécessaires pour satisfaire les membres qui croyaient leurs droits lésés. Tout en maintenant la formule intégrée qui avait été assez bien accueillie, on a nommé un nouveau rédacteur français distinct, en remplacement du démissionnaire. Le chien de garde étant de nouveau en place, on peut dormir en paix. Si les choses n'allaient pas, on n'aura qu'à crier une fois de plus "haro sur le baudet." Le problème semble donc réglé.

Cependant, un des principaux intéressés, le rédacteur français du Journal, se refuse à croire que tout est aussi simple. Il croit au contraire que le problème ne fait que commencer à se poser. L'A.D.C. consacre de grosses sommes au contenu français de son Journal, dont la préparation demande un travail considérable, non seulement de la part des responsables français, mais aussi de tous les membres de la rédaction dont le travail se trouve multiplié et compliqué du fait de la nécessité de publier en deux langues.

Au risque de passer pour traître à la cause du bilinguisme intégral, je me permettrai de prétendre qu'une telle dépense d'argent et surtout d'énergie, ne peut trouver sa justification dans la seule question de principe. Il la lui faut trouver ailleurs. Il faut que le français réponde à un désir et à un besoin profond des membres de l'A.D.C. qui lui accordent en retour le support le plus complet. Un journal qui n'est pas lu n'a pas raison d'être. Un peuple qui n'a rien à dire n'a pas droit à un moyen d'expression.

Depuis l'intégration du Journal, le contenu français n'est plus limité aux quelque 16 pages réglementaires auxquelles on était habitué par le passé. La quantité de français publiée dans chaque livraison du Journal est directement proportionnelle à la productivité du Canada français. Et s'il est parfaitement possible de concevoir qu'un numéro soit constitué entièrement d'articles français, il faut aussi admettre qu'un autre numéro soit exclusivement anglais, faute de matériel français à y insérer.

Notre groupe ethnique doit donc fournir le matériel nécessaire à chaque livraison du Journal. C'est un défi que nous devons relever vis-à-vis du *Journal de l'Association dentaire canadienne*.

Le rédacteur français n'est personnellement responsable que des éditoriaux; la section des communiqués et des nouvelles n'est qu'une réplique de sa contrepartie anglaise, l'une et l'autre se proposant de reprendre des nouvelles parues ailleurs et de les organiser d'une façon susceptible de renseigner en un coup d'œil le lecteur sur l'ensemble des sujets qui intéressent la profession dentaire aujourd'hui.

La section de recension de livres, celle des lettres aux rédacteurs, de même que la section des articles de fonds, ne sauraient exister sans une généreuse participation des membres de la profession canadienne-française. Elles four-

nissent à ceux qui le désirent l'occasion de s'exprimer sur des sujets fort divers, allant de la lecture et de la politique dentaire jusqu'aux travaux cliniques et à la recherche pure.

Une participation active de notre groupe ethnique à ces différentes chroniques témoignerait de l'intérêt que nous portons à notre profession, de notre productivité intellectuelle, et justifierait sans équivoque les efforts et les dépenses qui sont nécessaires au maintien du Journal français.

Le Journal français n'est pas l'affaire d'un homme, son rédacteur, mais c'est l'affaire de tout un peuple. Si la profession canadienne-française sait fournir à son rédacteur la collaboration dont il a besoin, le Journal français pourra non seulement continuer d'exister, mais il pourra aussi grandir et s'imposer indiscutablement par sa valeur. Sans ce support, la nécessité de son existence sera toujours remise en doute faute d'être justifiée par autre chose qu'une simple question de principe.



Le pont Angus L. Macdonald relie Dartmouth et Halifax, site du congrès national de l'A.D.C. en juin prochain. Selon la légende ancienne, un chef indien a prédit qu'il y aurait trois ponts à travers le port de Halifax, dont deux s'effondreraient lentement, sans tragédie, au milieu de la nuit, mais que la chute du troisième entraînerait plusieurs pertes de vie. Le premier pont s'est effondré durant la nuit, en 1819, et il n'y eut aucune perte de vie. Le deuxième s'est effondré deux ans plus tard, durant la nuit, et sans perte de vie. Le pont actuel, ouvert à la circulation en avril 1955, est le troisième pont. On songe maintenant à construire un quatrième pont — ce n'est pas qu'on se souvienne de la légende — mais c'est que la circulation s'accroît sans cesse.

Première réunion du Collège royal des dentistes

Les 16 et 17 septembre marquent un jalon important dans l'histoire de la dentisterie canadienne, la première réunion du conseil provisoire du nouveau Collège royal des chirurgiens dentistes du Canada. C'est aux quartiers généraux de l'Association dentaire canadienne à Toronto, que s'est tenue cette réunion historique.

Créé par le Bill S-44 du Sénat du Canada, bill qui a reçu l'approbation royale le 18 mars, le Collège devient l'autorité nationale devant régir les spécialités dentaires. Il verra à promouvoir de hauts standards de spécialisation dans la profession dentaire, il déterminera l'appellation des différentes spécialités, et les qualifications nécessaires pour que soient reconnus les spécialistes. Il verra aussi à favoriser la création de cours spécialisés dans les facultés dentaires du Canada.

Le conseil provisoire s'est réuni dans le but de rédiger la constitution et d'élire un

nouveau conseil. Quatre membres de chacune des trois spécialités que reconnaissait à ce moment-là l'Association dentaire canadienne avaient été délégués au conseil provisoire. Il s'agissait de:

B. E. Brownlee de Winnipeg, Paul Geoffrion de Montréal, G. V. Fisk de Toronto et Gerald Franklin de Montréal, qui représentaient l'orthodontie;

J. W. Neilson de Winnipeg, W. F. Walford de Montréal, C. H. M. Williams de Toronto et P. J. Gitnick de Montréal, qui représentaient la périodontie;

Antoine Raymond de Montréal, A. A. Antoni de Toronto, F. A. Smith de Vancouver et J. P. Coupland d'Ottawa, qui représentaient la chirurgie buccale.

Les membres du Comité de l'A.D.C. sur la spécialisation et les spécialistes assistaient aussi à cette réunion. C'est grâce à leur travail qu'il a été possible de former le Collège royal. Il y avait: M. A. Rogers

Les membres du conseil provisoire du nouveau Collège royal des chirurgiens dentistes du Canada sont (assis, de g. à dr.) F. A. Smith de Vancouver, Gerald Franklin de Montréal, G. V. Fisk de Toronto, Antoine Raymond de Montréal, Paul Geoffrion de Montréal et A. A. Antoni de Toronto. Debout, de g. à dr., C. H. M. Williams de Toronto, P. J. Gitnick de Montréal, J. P. Coupland de Ottawa, J. W. Neilson de Winnipeg, W. F. Walford de Montréal et B. E. Brownlee de Winnipeg.



de Montréal, président; H. T. Oliver, J. J. McCarthy, J. D. Stewart et James McCutcheon, tous de Montréal; et R. L. Scott de Brantford, Ontario.

Le conseil provisoire a élu le premier conseil officiel du Collège royal qui est formé de deux membres de chacune des cinq spécialités reconnues. Les représentants de chaque spécialité sont nommés l'un pour trois ans, l'autre pour deux ans. Les membres du nouveau conseil sont donc: G. V. Fisk et Paul Geoffrion (Division de l'orthodontie); A. A. Antoni et F. A. Smith (Division de la chirurgie buccale); C. H. M. Williams et J. W. Neilson (Division de la périodontie); A. W. S. Wood de Toronto et R. L. Scott (Division de la pédodontie); C. H. Moses de Toronto et W. D. Clark de Stoney Creek, Ontario (Division de la prothèse).

F. A. Smith de Vancouver devient le premier président du Collège; C. H. M. Williams de Toronto en est le vice-président et A. A. Antoni de Toronto le secrétaire trésorier.

Canada

Ottawa offre de verser \$500 millions au fonds des ressources de la santé

Le gouvernement fédéral offre aux provinces de verser \$500 millions dans le fonds des ressources de la santé qui doit servir à financer l'expansion des institutions de recherche et d'enseignement dans le domaine de la santé. Cette offre s'étend sur une période de 15 ans.

Le Premier Ministre Pearson a fait cette déclaration dans son discours d'ouverture à la conférence fédérale-provinciale des ministres de la santé, tenue à Ottawa les 23 et 24 septembre. Les fonds seront disponibles dès le 1er janvier pour la construction, la rénovation, l'achat d'équipement de recherche pour les hôpitaux d'enseignement, les facultés dentaires, et les autres institutions qui forment le personnel médical et para-médical.

La répartition des fonds ne se fera pas au prorata de la population. Ce sont les besoins nationaux et régionaux qui seront les facteurs déterminants. Ainsi, une pro-

vince qui ne forme pas son propre personnel médical mais préfère se fier sur les institutions des autres provinces, recevra une allocation moindre. Pour qu'elle ait droit à l'assistance fédérale, il ne sera pas nécessaire qu'une province participe au programme 'medicare' que le gouvernement fédéral a mis de l'avant à la conférence du 19 juillet. Cependant Ottawa espère que toutes les provinces choisiront d'y prendre part.

Les octrois ne seront applicables qu'aux dépenses capitales. Ils constituent la contribution qu'Ottawa entend apporter à l'expansion des institutions de recherche et d'enseignement médicales nécessaires pour rencontrer les besoins qu'entraînera le programme 'medicare' qui doit commencer le 1er juillet 1967. On s'attend à ce que les provinces fassent aussi leur part en fournissant des fonds supplémentaires.

Ottawa a fait savoir aux provinces que pour se mériter l'aide du trésor fédéral, leurs propres programmes 'medicare' devront atteindre 90 pour cent de la population dès le début, et monter jusqu'à 95 pour cent en quelques années. Il a aussi été entendu que les demandes pour des octrois du fonds des ressources de la santé doivent se faire par l'intermédiaire des gouvernements provinciaux.

Les détails des règlements qui gouverneront l'administration de ce fonds seront déterminés par un comité spécial composé de trois représentants d'Ottawa, un représentant de chaque province, deux représentants de l'Association médicale canadienne, un de l'Association dentaire canadienne, un de l'Association des infirmières du Canada, un autre de l'Association canadienne des hôpitaux, un de l'Association of Canadian Medical Colleges, un du Medical Research Council, et enfin, un de l'Association des médecins de langue française.

Il y aura une autre réunion des ministres de la santé cet hiver, durant laquelle on étudiera les recommandations ci-haut mentionnées, en même temps que d'autres détails relatifs au programme 'medicare'. D'ici là, les ministres provinciaux de la santé consulteront leurs gouvernements respectifs afin de décider si leurs provinces participeront au programme.

Conférence sur la santé à Ottawa du 28 novembre au 1er décembre

Une conférence sur les services de santé à laquelle participeront environ 350 représentants, sera tenue au Château Laurier à Ottawa du 28 novembre au 1er décembre.

Bert Curtis, chargé de l'éducation des adultes à la Commission des écoles secondaires d'Ottawa, et président du comité de direction de la conférence, a déclaré que celle-ci aurait trois objectifs principaux:

Elle fournira l'occasion de discuter le rapport Hall et ses conséquences pour tous les Canadiens;

Elle fournira l'occasion de diriger l'attention de tous les Canadiens sur la Charte de la santé que propose le rapport Hall;

Elle mettra en marche un programme d'éducation et d'information que pourront continuer les organisations qui auront participé à la conférence et cela, selon leur propre politique et leurs propres décisions.

Cette conférence est organisée avec le concours de 18 organismes. Six d'entre eux représentent à eux seuls 13 millions d'individus. Sont représentés: les groupes religieux les plus importants, les associations de travailleurs et de fermiers, la Chambre de Commerce du Canada, les organisations nationales féminines et autres groupes.

L'Association dentaire canadienne y enverra un observateur, son président-élu, J.P. Coupland d'Ottawa.

Chronique internationale

Prix de la Fédération dentaire internationale

Le prix international Albert Joachim, d'une valeur de 50,000 francs belges, sera décerné lors du 4ème congrès dentaire mondial qui se tiendra à Paris en 1967. Ce prix sera décerné à l'auteur d'une thèse originale et inédite sur la recherche de laboratoire ou la recherche clinique, dans le domaine de l'odonto-stomatologie.

Pour obtenir copie des règlements de ce concours, s'adresser à G. H. Leatherman, secrétaire général, Fédération dentaire in-

ternationale, 35 Devonshire Place, Londres W.1, Angleterre.

Tous les travaux que l'on désire soumettre, doivent parvenir au secrétariat avant le 1er janvier 1966.

Législation au sujet des techniciens en Nouvelle-Zélande

Le *Bulletin de la F.D.I.* du mois d'août décrit les progrès accomplis dans les négociations qui sont en cours avec les techniciennes dentaires de Nouvelle-Zélande, dans le but de réglementer ce métier (voir aussi l'éditorial du Journal de septembre, "New Zealand Revisited").

On propose actuellement la création d'un corps professionnel, d'un système d'immatriculation, de même que l'adoption de standards d'entraînement.

Par le passé, les négociations ont échoué, car les techniciens insistaient pour défendre leur droit à la pratique libre.

Fédération des associations de prothèse dentaire

Les représentants de 10 académies et sociétés de prothèse dentaire se sont rencontrés à Chicago les 21 et 22 août, pour former la Fédération des associations de prothèse dentaire.

Parmi les buts de la nouvelle fédération, on remarque l'amélioration des traitements de prothèses, l'amélioration des relations entre les membres de l'organisation, l'amélioration des relations avec l'Association dentaire américaine et l'Association dentaire canadienne.

Les délégués ont admis les organismes suivants à devenir membres de la fédération: L'Académie canadienne de prothèse, The Academy of Denture Prosthetics, The American Academy of Crown and Bridge Prosthodontics, The American Academy of Maxillofacial Prosthetics, The American Academy of Restorative Dentistry, The American Equilibration Society, The American Prosthodontic Society, The Greater New York Academy of Prosthodontics, The Pacific Coast Society of Prosthodontists, The Southeastern Academy of Prosthodontics. Chaque association membre envoie deux délégués à la fédération.

Les représentants canadiens qui ont aidé à la formation de la fédération sont K. M. Kerr de Halifax et W. G. Woods de Toronto.

Le président de la nouvelle fédération est C. O. Boucher. Le président du comité des relations extérieures de la fédération est V. L. Steffel de la Faculté dentaire de l'Ohio State University, Columbus, Ohio.

La première réunion annuelle de la fédération se tiendra à Chicago le 23 février 1966.

Symposium sur le cancer de la bouche à Chicago

Un symposium d'un jour sur le cancer de la bouche aura lieu le 1er décembre, à l'hôtel Blackstone de Chicago. Organisé par la section de Chicago de l'American Cancer Society ainsi que par la Chicago Dental Society, ce symposium traitera des techniques de cytologie et de biopsie, de l'étiologie du cancer, ainsi que du rôle que le dentiste peut jouer dans le diagnostic précoce du cancer.

Pour renseignements additionnels, communiquer avec Mme W. C. Henrichsen, Chicago Unit, American Cancer Society (Illinois Division), 37 South Wabash Avenue, Chicago 3, Illinois, U.S.A.

Cours sur les implants à Puerto Rico

Le docteur R. L. Bodine organise un cours sur les implants dentaires qui sera donné à la Faculté dentaire de l'Université de Puerto Rico, du 4 au 7 janvier 1966.

Le cours traitera de l'expérimentation animale, des implants pour dent unique, de la construction et de l'entretien des implants sub-périosteaux mandibulaires, des problèmes et complications qu'entraînent des implants, de même que de l'évaluation des techniques modernes.

Les techniques chirurgicales seront expliquées grâce à des kinéscopes. On pourra ainsi voir les opérations nécessaires à l'implantation de deux prothèses distinctes.

Cinq patients porteurs d'implants, seront à la disposition des participants qui pourront les examiner. Les frais de scolarité sont de \$50.00. Pour information additionnelle, écrire à Rafael Aponte, Jr., Director, Postgraduate Education, University of Puerto Rico School of Dentistry, San Juan, Puerto Rico 00905.

Conférence à Honolulu

Les membres de l'Association dentaire canadienne sont invités à assister à la 13ème Conférence dentaire triennale de la côte du Pacifique à Honolulu, Hawaii, du 22 au 29 janvier 1966. Pour plus amples informations et toute réservation, s'adresser à J. H. Dawe, secrétaire, case postale 2198, Honolulu, Hawaii 96805, E.-U.

Organismes dentaires

Nouveaux diplômés de la province de Québec

Cinquante-trois nouveaux diplômés — 36 de l'Université de Montréal et 17 de l'Université McGill—ont reçu leur licence à la suite de la réunion du Collège des chirurgiens dentistes de la province de Québec, le 21 juin.

Le président Henri Brouillet et le docteur A. W. Oliver de Montréal, ont souhaité la bienvenue aux nouveaux dentistes. Le registraire du Collège, R. M. Le Blanc, a assermenté chacun d'entre eux.

Neuf dentistes se sont réinscrits au Collège de la province de Québec l'an dernier, quinze ont démissionné et trois sont décédés.

Election chez les hygiénistes dentaires

Lors de la réunion de l'Association canadienne des hygiénistes dentaires tenue à Québec en juin dernier, Mlle Dixie Scoles de l'Ecole d'hygiène dentaire de l'Univer-

sité du Manitoba a été élue présidente. Mlle Louise Pollard de Winnipeg, est la secrétaire de cette association.

Facultés dentaires canadiennes

Plus petites classes pour l'Université de la Colombie britannique

Il est probable que l'Université de la Colombie britannique doive se contenter de recevoir 20 étudiants dentaires au lieu de 40, car les soumissions pour la construction de l'université et de la faculté dentaire sont plus élevées que l'on avait prévu.

On avait cru pouvoir construire l'édifice pour la somme de \$4 millions; on devra se contenter d'installations moindres, car les soumissions sont beaucoup plus élevées.

On a déjà donné un contrat de \$4.4 millions pour la construction de l'édifice, mais l'intérieur ne sera pas entièrement terminé à ce prix.

Le doyen S. Wah Leung aurait déclaré qu'il n'y aura pas de retard dans le programme de développement de l'école dentaire. Il sera facile de compléter l'intérieur de l'édifice à mesure que les fonds deviendront disponibles.

Les hygiénistes dentaires peuvent assumer des responsabilités plus étendues

Les deux tiers de la classe d'hygiénistes dentaires de l'Université de Toronto ont fait preuve d'aptitudes spéciales et, avec la préparation nécessaire, seraient en mesure de faire des travaux et d'assumer des responsabilités qui dépassent beaucoup celles qui incombent habituellement à l'hygiéniste. On en est venu à cette conclusion à la suite d'une étude entreprise à la demande du Conseil des gouverneurs du Collège royal des chirurgiens dentistes de l'Ontario, étude qui a duré de 1961 à 1964 et qui répond aux questions suivantes:

1. Est-il possible de préparer l'hygiéniste dentaire à faire des travaux manuels plus diversifiés qu'elle ne le fait aujourd'hui?

2. Est-il possible de lui enseigner ces techniques dans un laps de temps comparable à celui qu'il faut pour enseigner la même chose à l'étudiant de chirurgie dentaire?

3. Les travaux faits par l'hygiéniste se compareront-ils en qualité aux travaux des étudiants dentaires?

Ces épreuves se proposaient d'évaluer avec précision les aptitudes des hygiénistes et n'avaient pas pour but de déterminer dans quelles directions devront s'étendre les responsabilités de l'hygiéniste.

Réduction des échecs universitaires grâce aux épreuves d'aptitude

De l'opinion d'un expert en éducation dentaire, les épreuves d'aptitude faites avant l'admission des étudiants, permettent de réduire d'une façon marquée le taux d'échecs.

T. J. Ginley de Chicago, directeur de la Division of Educational Measurements de l'American Dental Association, révèle que depuis 1950 on a ainsi examiné dans les écoles dentaires des États-Unis environ 80,000 applicants.

Dans une communication faite à la 42ème réunion annuelle de l'American Association of Dental Schools tenue à Toronto du 25 au 28 juillet, M. Ginley a exposé l'objectif principal de ce programme conduit par le Conseil de l'éducation dentaire de l'A.D.A., en collaboration avec l'American Association of Dental Schools. Notre but principal, dit-il, est de réduire les pertes en personnel qui résultent des échecs académiques. Un nombre de plus en plus grand de candidats participent à ce programme d'épreuves, a-t-il ajouté.

Environ 80 pour cent des étudiants que l'on accepte dans les écoles dentaires ont fait trois années ou plus d'études pré-professionnelles. De plus en plus, les écoles dentaires ont tendance à n'accepter que des candidats dont les qualifications dépassent le minimum requis.

A sa réunion de Québec, le Conseil des Gouverneurs de l'Association dentaire canadienne a accepté que l'on utilise ici des tests d'aptitude semblables à ceux de l'A.D.A.

Cliniques télévisées pour les écoles dentaires

Si l'on en croit un éducateur de Toronto, les écoles dentaires procéderont bientôt à des échanges de programmes télévisés destinés à enseigner aux étudiants les interventions les plus récentes.

A. C. Manis, de la Faculté de chirurgie dentaire de l'Université de Toronto, a déclaré à la 42ème réunion annuelle de l'American Association of Dental Schools, tenue à Toronto du 25 au 28 juillet, que les cliniques produites en direct sur les circuits de télévision fermés déjà en usage dans de nombreuses écoles dentaires, pourraient être enregistrées sur bandes magnétoscopiques.

Ces bandes magnétiques pourraient ensuite être placées dans les bibliothèques et être échangées. De nouvelles interventions pourraient ainsi faire l'objet d'enregistrements que l'on distribuerait dans plusieurs écoles pour fins d'étude et d'évaluation.

Le Dr Manis prévoit deux autres développements dans l'emploi de la télévision dans l'enseignement dentaire. D'abord, l'emploi de la couleur remplacera l'usage du blanc et noir, afin de mieux représenter les tissus de la bouche. Ensuite la venue d'écrans géants qui remplaceront aussi les petits appareils de télévision que l'on emploie actuellement dans la plupart des écoles dentaires.

Corps dentaire royal canadien

Fin des cours d'été pour les élèves-officiers

Le 5 août au Camp Borden (Ontario), les élèves-officiers du troisième stage pratique terminaient leur entraînement d'été par un défilé qui a eu lieu à l'Ecole du Corps dentaire. Les cadets-officiers du deuxième stage pratique faisaient aussi partie du défilé.

Le brigadier K. M. Baird, directeur général des Services dentaires des Forces canadiennes, a reçu le salut militaire. Le défilé a été suivi d'un dîner en l'honneur des futurs officiers du Corps dentaire

royal canadien qui retournent dans leurs universités pour y poursuivre leurs études.

Les prix de compétence décernés pour le stage de formation pratique sont les suivants:

Mention honorable, premier stage: à l'Ecole d'infanterie, l'élève-officier D. J. Morrow, Université du Manitoba;

Mention honorable, deuxième stage: à l'Ecole du Corps dentaire, l'élève-officier H. A. Pankratz, Université du Manitoba;

Au deuxième stage, le second était l'élève-officier T. J. Erskine, Université de l'Alberta;

Mention honorable, troisième stage: à l'Ecole du Corps dentaire, le sous-lieutenant J. F. Stansfield, Université de Toronto;

Au troisième stage, le second était le sous-lieutenant H. M. Amos, Université de Dalhousie.

Le trophée des chefs-instructeurs, pour le troisième stage, a été décerné au sous-lieutenant J. W. Bergerman, Université du Manitoba.

Le colonel Kearney est nommé ADGSD

Les quartiers généraux des Forces des armées canadiennes annoncent la nomination du colonel B. P. Kearney à titre d'assistant directeur général des Services dentaires pour les Forces armées canadiennes.

Natif de Galt (Ontario), le colonel Kearney a terminé ses études à l'Université de Toronto en 1936, et a passé l'année suivante au Forsyth Dental Infirmary for Children de Boston. Il a exercé sa profession à Toronto jusqu'en 1939. Bénéficiaire d'une bourse du Rockefeller Research Fellowship, il a poursuivi ses études à la Faculté de médecine et de chirurgie dentaire de l'Université de Rochester, New York, en 1939 et 1940.

Enrôlé dans le Corps dentaire canadien en mai 1940, le colonel Kearney a servi outre-mer pendant trois ans en Angleterre et en Europe du nord. De retour au Canada en 1945, il s'est enrôlé dans l'armée active en 1946.

Le colonel Kearney a occupé les postes suivants: de 1946 à 1949, il est au Directeurat d'Ottawa; en 1950, il est clinicien à l'Ecole du C.D.R.C.; il devient en 1953, officier de l'Unité dentaire de campagne

no 25 en Corée; en 1954, il est spécialiste senior de la Compagnie dentaire no 13 à Trenton, Ontario; en 1957, commandant de l'Ecole du Corps dentaire royal canadien au Camp Borden en Ontario; en 1961, commandant de la Compagnie dentaire no 11 à Edmonton, et officier dentaire du Western Command. En septembre 1965, il a été nommé assistant directeur général des Services dentaires aux quartiers généraux des Forces canadiennes à Ottawa.

Le colonel Kearney est membre de l'Empire britannique et a reçu la décoration des Forces canadiennes et l'aile des parachutistes. Il est fellow de l'International College of Dentists.



Le colonel
B. P. Kearney

Séances d'études en dentisterie préventive

Le lieutenant-colonel D. H. Protheroe, chef instructeur à l'Ecole du Corps dentaire du Camp Borden (Ontario), a représenté le Directeur général des services dentaires aux séances d'études en dentisterie préventive tenues au Walter Reed Army Medical Centre à Washington, du 10 au 12 août. Le but de cette réunion était de promouvoir l'application des méthodes de prévention en stomatologie.

Le major Guèvremont termine un cours post-universitaire

Le major P.-H. Guèvremont a terminé récemment le cours post-universitaire d'hygiène dentaire à l'Ecole d'hygiène et à la Faculté de chirurgie dentaire de l'Université de Toronto. Il occupera un

poste au quartier général de la 15ème Compagnie dentaire à Montréal.

Le major Chatwin suit un cours à l'Université de Toronto

Le major J. V. P. Chatwin qui a passé les trois dernières années en Europe avec la 4ème Compagnie dentaire de campagne du 4ème Groupe de brigade d'infanterie canadienne, suit un cours de santé publique dentaire à l'Ecole d'hygiène et à la Faculté dentaire de l'Université de Toronto.

Permutation

Le **major J.C.R. Roy** de Montréal remplacera le **major T.C. Gaudet** qui vient de rentrer au Canada après un an de service avec l'unité dentaire de la Force d'urgence des Nations Unies au Moyen-Orient. Le major Gaudet sera affecté à la Compagnie dentaire No 13 de l'A.R.C. à Trenton, Ontario.

18 nouveaux officiers au Corps dentaire

Félicitations et bienvenue aux récents gradués qui viennent d'être promus au rang de capitaine:

Les capitaines A.F. Brothers, R.F. Cooper, E.F. Foley, G.R. Nye, H.S. Wood, G.S. Zwicker, de l'Université Dalhousie, Halifax;

Les capitaines J.A. Boucher, H.J. Nadeau, de l'Université de Montréal;

Le capitaine D.N. Charles de l'Université McGill;

Les capitaines Z. Tukums, J. C. Wamberra, de l'Université de Toronto;

Les capitaines D.G. Jones, J.D. McCallum, de l'Université du Manitoba;

Les capitaines R.B. Andrews, J.J. Anderson, B.B. Berezan, W.G. Ebert, F.H. Harreman, de l'Université d'Alberta, Edmonton.

Le capitaine Johnston est licencié

Le capitaine B. G. Johnston a été licencié le 14 juillet, après avoir accompli sa période de service dans le Corps dentaire royal canadien.

Economie

65 pour cent des dentistes canadiens dans le Québec et l'Ontario

Les résultats de l'enquête de 1963 sur le personnel dentaire, publié par le Bureau de recherches économiques de l'A.D.C., démontre que les deux tiers des 6,215 dentistes du Canada sont situés en Ontario et au Québec; 42 pour cent en Ontario seulement.

L'enquête ne dit pas combien, parmi les 6,075 hommes et 140 femmes qui ont le droit de pratique, n'exercent pas leur profession d'une façon active. Il y a un dentiste pour 3,095 Canadiens. La proportion est beaucoup plus élevée dans le Québec et l'Ontario, et beaucoup plus basse dans les autres parties du pays.

A Terre-Neuve, il n'y a qu'un dentiste pour 11,419 habitants, et en Saskatchewan, un pour 4,836.

A l'exception de la Saskatchewan, les provinces de l'ouest sont plus favorisées que les provinces de l'est; la Colombie britannique a la plus haute proportion, soit un dentiste pour 2,371 habitants. L'Ontario en a un pour 2,511 et le Québec, un pour 3,786.

A l'intérieur même des provinces, la distribution est irrégulière. Les centres métropolitains ont une proportion beaucoup plus favorable. Les villes d'importance moyenne sont plus favorisées que les districts ruraux.

Trois des provinces qui manquent le plus de dentistes n'ont pas d'écoles dentaires non plus: Terre-Neuve, le Nouveau-Brunswick et la Saskatchewan.

La quantité de dentistes présents dans une province n'est pas fonction du revenu moyen brut des dentistes dans cette province. Le revenu et l'éducation de la population semblent être le facteur principal qui crée une demande pour les soins dentaires.

La proportion dentiste-population au Canada est demeurée à un niveau stable depuis trois ans. Depuis 10 ans, le nombre des dentistes a augmenté de 16 pour cent, alors que la population l'a fait de 26 pour cent.

93 condamnations pour pratique illégale dans le Québec

L'Information, journal que publie le Collège des chirurgiens dentistes de la province de Québec, rapporte que 93 individus ont été condamnés pour avoir exercé illégalement l'art dentaire dans la province de Québec l'an dernier.

Dans son rapport au Conseil des Gouverneurs du C.C.D.P.Q., L.-P. Dubé de Québec, a déclaré que l'on a prélevé une somme de \$24,000.00 en amendes entre le 1er juillet 1964 et le 1er juillet 1965.

Nouvelle liste d'honoraires en Ontario

L'Ontario Dental Association a publié une nouvelle liste d'honoraires. Basée sur la liste de services dentaires de l'Association dentaire canadienne (*Délibérations* de l'A.D.C. 1964), la nouvelle liste d'honoraires de l'Ontario est publiée dans le but d'aider les nouveaux gradués. Cette liste peut aussi aider les praticiens à fixer les honoraires d'interventions rarement pratiquées. Elle aidera aussi les compagnies d'assurance dans le paiement de réclamations.

On lit dans l'introduction à cette liste qu'elle "représente un prix juste pour des soins dentaires donnés à un individu de revenu moyen, soins requérant une habileté, une dextérité et une responsabilité moyennes." Les dentistes peuvent donc modifier leurs honoraires suivant le temps, l'habileté, la responsabilité requis, ou tout autre circonstance inhérente au service. Ils peuvent le faire aussi lorsque le taux régulier causerait des problèmes financiers au patient.

On suggère de modifier les honoraires lorsque la même intervention est répétée plusieurs fois.

Il est normal de faire un reçu pour chaque montant versé et il faut tenir des livres de façon à pouvoir donner des comptes détaillés sur demande.

Fluoration obligatoire et soins gratuits pour les vieillards

Le Collège des chirurgiens dentistes de l'Ontario (R.C.D.S.) recommande la fluo-

ration obligatoire de tous les aqueducs et des soins dentaires gratuits pour les 75,000 vieillards de l'Ontario.

C'est W. J. Dunn, doyen de la Faculté dentaire de l'Université Western Ontario, et ancien registraire du Collège, qui a fait ces recommandations au Comité de la vieillesse de la législature ontarienne. Les recommandations du R.C.D.S. sont semblables à celles qu'a déjà fait l'Association dentaire canadienne au comité spécial du Sénat, sur la vieillesse.

Le docteur Dunn a fait remarquer que les services que reçoivent actuellement les vieillards de l'Ontario ne font honneur ni aux législateurs ni aux dentistes.

Il croit qu'il faudrait de 720,000 à 900,000 dollars par an pour pouvoir traiter les 21,300 individus qui reçoivent des pensions de vieillesse, de même que les 54,000 citoyens qui sont éligibles aux allocations supplémentaires de vieillesse.

Le Collège recommande en outre que l'on établisse un programme de soins dentaires à domicile pour personnes alitées. Ce programme pourrait être mis sur pied à l'échelle locale par la profession dentaire et les autorités de santé locale.

Chaque fois que la chose est possible, les hôpitaux et les autres institutions qui s'occupent de vieillards, devraient organiser des départements dentaires pour leurs patients.

Enfin, les dentistes devraient avoir des représentants à tout organisme permanent qui s'occuperait des vieillards en Ontario.

La Saskatchewan prête aux dentistes

Les dentistes britanniques qui subissent avec succès les examens de la licence, avant d'émigrer en Saskatchewan, pourront bénéficier d'un emprunt provincial, s'ils acceptent de rester dans cette province au moins deux ans.

Treize candidats ont déjà subi des examens écrits en Angleterre. Ceux qui ont subi avec succès les examens écrits pourront ensuite subir l'examen clinique. Deux des examinateurs se sont rendus spécialement en Angleterre pour cela.

Les dentistes qui auront subi ces examens avec succès pourront aussi bénéficier de bourses non-remboursables que le gouvernement offre dans le but de

diminuer le manque de professionnels dans cette province.

Programme dentaire albertain

Les dentistes albertains espèrent mettre en marche dès l'an prochain un programme de soins dentaires pour les familles à revenus modiques. C'est à la suite d'un symposium de trois heures sur l'assurance de santé dentaire, tenu au Congrès de la Western Canada Dental Society, à Banff, le 17 juin, que l'on a exposé les détails de ce programme.

Au début, le programme comportera une assurance financée par le gouvernement qui couvrira 40,000 enfants de familles à revenus modiques. Eventuellement, le programme atteindra 340,000 individus.

Le programme opérerait d'une façon identique au plan 'medicare' albertain. Les dentistes croient qu'au début, 50 à 75 pour cent des assurés se prévaudront de ces privilèges.

Une fois le programme en marche, des groupes importants de travailleurs s'y joindront probablement si l'on peut faire les ententes nécessaires. On pourrait aussi étendre ce programme en offrant des facilités de paiement à ceux qui ne sont pas capables de payer comptant leurs soins dentaires.

Le problème le plus important sera de fournir aux régions rurales le personnel nécessaire. Les dentistes de la province espèrent résoudre ce problème grâce à un système de résidence rotative.

Les employés de l'Hydro de la Colombie britannique réclament un plan de traitements dentaires

Si les négociations qui sont actuellement en cours entre la Commission hydro-électrique de la Colombie britannique et l'Union des employés électriques sont menées à bonne fin, les 1,200 employés de l'électricité auront peut-être un programme de soins dentaires. Les négociateurs ouvriers croient que c'est la première fois en Colombie britannique qu'un programme de soins dentaires fait l'objet de négociations.

Ce programme a été préparé par la Dental Services Association of British Columbia, une corporation de services dentaires commanditée par l'Association dentaire de la Colombie britannique. On considère que le groupe des employés de l'électricité est un excellent prototype, parce que:

Le groupe est suffisamment nombreux pour assurer le succès financier du programme;

Il y a dans ce groupe continuité d'emploi, ce qui est essentiel pour évaluer l'efficacité du programme;

Les statistiques sont disponibles, ce qui permettra de réduire les dépenses administratives;

Enfin, le groupe des employés électriques était à la veille d'entreprendre la négociation de nouveaux contrats.

Il y a 1,200 employés de l'Hydro et 3,600 de leurs dépendants. Les primes seraient environ \$5.99 par mois par employé et le coût total environ \$90,000.00 par année. Il reste à répartir le coût d'un tel programme entre employés et employeurs. On a suggéré que l'employeur paie la prime totale et que l'employé ne paie que 50 pour cent des soins dentaires qu'il reçoit.

Ce programme ne comprendra que les soins dentaires de base, à l'exclusion des traitements d'orthodontie, des prothèses fixes et des travaux d'or.

Fluoration

La fluoration à New York

Le 7 septembre, la fluoration a débuté dans la plus grande ville de l'Amérique du Nord, après une lutte de 10 années pendant lesquelles les adversaires ont insisté sur les effets nuisibles — particulièrement chez les personnes âgées et affectées de maladies chroniques — et ont mis en doute les avantages de cette mesure de santé publique.

En novembre 1963, les experts médicaux et dentaires de la ville de New York se sont nettement prononcés en faveur de la fluoration. Fort de ce témoignage, le maire Robert Wagner a demandé l'adoption immédiate de la mesure, alléguant

qu'elle était "efficace, sans danger et tout à fait urgente." Le maire s'est opposé au principe d'un référendum qui n'aurait fait que retarder les débuts des travaux.

Le 12 septembre 1963, le Board of Estimate de la ville de New York donnait son approbation finale, mais il y eut des délais, car on intenta des poursuites judiciaires destinées à retarder la mise en vigueur de la loi. Il y eut aussi des problèmes techniques.

Il y a neuf usines de fluoration dont les plus importantes sont situées aux lacs Kensico, Croton, et à Long Island.

49 millions d'Américains boivent de l'eau fluorée

Selon les dernières statistiques du Service de santé publique des Etats-Unis, 48,962,404 Américains boivent l'eau fluorée des aqueducs publics dans 2,829 municipalités. Ces mêmes statistiques en date du 22 juin dernier ajoutent que 7.2 millions de personnes réparties dans 1,900 centres boivent de l'eau naturellement fluorée.

L'A.M.A. appuie la fluoration

Dans un récent bulletin de nouvelles, l'American Medical Association a réaffirmé son appui à la fluoration de l'eau comme étant "un moyen efficace pour réduire la carie dentaire." Le communiqué, émis à l'occasion de la publication d'une nouvelle brochure sur la fluoration, dit que l'A.M.A. a tout d'abord endossé le principe de la fluoration de l'eau des aqueducs en 1951, et qu'en 1957, elle a renouvelé son appui à cette mesure.

La fluoration est sans danger pour le cœur

Un communiqué de l'American Heart Association affirme que l'eau fluorée est sans danger pour le système circulatoire. L'Association approuve la position prise par son Comité de l'épidémiologie et son Comité de l'artériosclérose, disant que rien ne montre que la fluoration "puisse avoir un effet nuisible sur le système cardio-vasculaire."

Hygiène publique

Réunis à Edmonton, les dentistes hygiénistes s'intéressent à la spécialisation, au salaire et au recrutement

Seize dentistes canadiens se sont rendus cette année à la réunion de l'Association canadienne d'hygiène publique (C.P.H.A.) tenue à Edmonton du 31 mai au 3 juin.

La Section dentaire s'est réunie deux fois — les 1er et 3 juin. Il y avait beaucoup à faire, car les représentants ne s'étaient pas réunis depuis la séance de Winnipeg en 1964. Parmi les sujets à l'agenda, on remarquait: recrutement du personnel pour les départements d'hygiène dentaire publique; l'hygiène dentaire publique en tant que spécialité et ses rapports avec le Collège royal des chirurgiens dentistes du Canada; implications dentaires de la 6ème refonte du C.P.H.A. "qualifications et salaire minimums pour le personnel d'hygiène publique au Canada", (texte publié dans le numéro d'avril 1965 de la *Revue canadienne d'Hygiène publique*). On a aussi discuté des implications dentaires du mémoire du C.P.H.A. relatif au volume no 1 du Rapport de la Commission royale d'enquête sur les services de santé (mémoire publié en novembre 1964 dans la *Revue canadienne d'Hygiène publique*); d'un énoncé de politique de la C.P.H.A. sur la fluoration; et de l'étude de la possibilité de faire de nouveaux énoncés de politique sur des sujets d'hygiène dentaire publique: la dentisterie préventive pour les enfants, et les services auxiliaires dentaires en hygiène dentaire publique.

Pour permettre une meilleure continuité dans les affaires de la Section dentaire, les membres ont approuvé la création du nouveau poste de 'continuing secretary' auquel on a nommé C. A. McCabe d'Ottawa pour un minimum de deux ans. La Section dentaire a aussi nommé H. S. Grey de Toronto, et en son absence M. E. Jarrett de Fergus (Ontario), comme observateur à la prochaine réunion du Conseil d'hygiène publique de l'A.D.C.

L. J. Bonneau de Québec succède à A. T. Salter d'Edmonton, comme président de la Section dentaire. F. A. Kohli de Toronto devient vice-président et Henri Tourigny de Magog (P. Qué.) secrétaire.

La prochaine réunion de la C.P.H.A. se tiendra à Québec en 1966.

Le Dr Marsh nommé à Ottawa

T. L. Marsh de Winnipeg, a été nommé directeur de recherche de la Division de santé dentaire, au Ministère de la santé nationale et du bien-être social à Ottawa. Il est entré en fonction le 1er juillet.

Depuis quatre ans, le docteur Marsh était assistant professeur d'hygiène dentaire publique à l'Université du Manitoba, à Winnipeg. Il était aussi officier dentaire régional du Département de santé du Manitoba. Avant de se rendre au Manitoba, le Dr Marsh était officier d'hygiène dentaire publique au Corps dentaire royal canadien.

Recherche

L'A.D.C. consacre \$12,000.00 à la recherche

Le Conseil des recherches de l'Association dentaire canadienne a voté plus de \$12,000.00 pour la recherche en 1965. D'après le rapport fait au Conseil des Gouverneurs à Québec, en mai dernier, \$7,425.00 ont été consacrés à l'enseignement et à la recherche, et \$5,310.00 aux travaux d'été en recherche dentaire.

Au nombre des boursiers de l'A.D.C. cette année: P. A. Bell qui étudie la pathologie buccale et la radiologie à Toronto; D. V. Chong, qui se spécialise en bactériologie, à Toronto; et F. W. Lovely, qui complète actuellement une maîtrise en chirurgie buccale, enseignera à la Faculté de chirurgie dentaire de l'Université Dalhousie.

Six bourses ont été allouées à des étudiants de deuxième et troisième année d'art dentaire, pour travailler à des projets de recherche durant l'été. Ces étudiants rendent de grands services dans les laboratoires de recherche, et certains s'orienteront peut-être vers la recherche. Les récipiendaires pour 1965 ont été: A. T. Ball au Manitoba, H. Briggs à McGill, C. E. Donovan au Manitoba, E. J. Hanni-

gan à l'Université Dalhousie, Mlle F. Michaud à l'Université de Montréal et Mlle S. Wachna à Toronto.

Educateurs et chercheurs à Toronto

A l'occasion de la 43ème réunion générale de l'International Association of Dental Research tenue à l'hôtel Royal York de Toronto, du 22 au 25 juillet, un grand nombre d'éducateurs et de chercheurs de la profession dentaire du monde entier ont pu discuter des progrès de la recherche et des récents développements de l'éducation dentaire. A la suite de la réunion de l'I.A.D.R., l'American Association of Dental Schools a tenu sa 42ème réunion annuelle, qui s'est prolongée jusqu'au 28 juillet.

Ces deux organismes se réunissaient au Canada pour la seconde fois cette année, la première réunion ayant eu lieu en 1930. Plusieurs Canadiens sont membres de ces deux associations.

Durant la réunion de l'I.A.D.R., on a lu plus de 460 communications originales. Celles-ci couvraient un grand nombre de sujets allant de l'hygiène dentaire pour astronautes, jusqu'à l'usage d'un antibiotique spécialement destiné à réduire les maladies périodontaires et une nouvelle méthode de traitement de la rage dans lequel le vaccin antirabique est combiné à un anesthésique dentaire.

La réunion de l'I.A.D.R. s'est déroulée sous la présidence du professeur M. A. Rushton de l'Université de Londres. Son successeur, B. M. Levy, de l'Université du Texas à Houston, a assumé ses fonctions de nouveau président à la dernière réunion de l'exécutif de cette association.

Lors de la session conjointe de l'I.A.D.R. et de l'A.A.D.S., le 25 juillet, les congressistes ont eu le privilège d'entendre le président Murray G. Ross de l'Université York de Toronto.

Durant les quatre journées qu'a duré le congrès de l'A.A.D.S., on a traité de divers aspects de l'éducation dentaire, dont l'enseignement, la recherche en anatomie dentaire, et des programmes de test d'aptitudes.

Du côté social, on a bien apprécié la réception tenue à la Faculté de chirurgie

dentaire de l'Université de Toronto le 25 juillet.

Quarante-huit écoles dentaires américaines et six canadiennes sont membres de l'A.A.D.S. dont les objectifs principaux sont l'avancement de l'éducation dentaire et de la recherche. Deux nouvelles écoles dentaires sont devenues membres à l'occasion de ce congrès: la Faculté de chirurgie dentaire de l'Université de Colombie britannique, et l'école dentaire de Los Angeles de l'Université de Californie. La Faculté de chirurgie dentaire de l'Université Western Ontario deviendra membre l'an prochain.

Palmarès

M. V. J. Keenan, dentiste bien en vue de Sudbury et ancien président de l'Association dentaire canadienne, a été honoré par ses collègues de la Northern Ontario Dental Association lors de la réunion de 25ème anniversaire de cette organisation tenue au Killarney Mountain Lodge, à Killarney, Ontario. Le docteur Keenan a été l'un des membres fondateurs de la N.O.D.A. en 1940.

"Dans toute l'histoire de la N.O.D.A., personne n'a fait autant que lui . . .," a dit L. H. McCool de North Bay, au moment où il a présenté un parchemin souvenir à Michael Keenan, fils du docteur Keenan. Celui-ci avait dû se rendre outre-mer et ne pouvait assister au dîner annuel de la N.O.D.A. C'est pourquoi on lui avait déjà remis son parchemin le 4 août.

Le docteur **Don W. Gullett** de Toronto, ancien secrétaire de l'A.D.C., a été élu membre honoraire de la Fédération dentaire internationale, lors de la dernière réunion annuelle de la F.D.I., tenue à Vienne, Autriche.

L'Académie Pierre Fauchard a remis le Elmer S. Best Memorial Award à **C.H.M. Williams** de Toronto pour contribution remarquable à la science dentaire.

Royal College of Dentists holds initial meeting

September 16 and 17 marked an important turning point for Canadian dentistry—the first meeting of the provisional council of the newly created Royal College of Dentists of Canada. The inaugural meeting was held at Canadian Dental Association headquarters in Toronto.

Established as a national dental specialty qualifying and examining authority under Senate of Canada Bill S-44 which received royal assent on March 18, the College will promote high standards of specialization in the dental profession, set up qualifications for and provide for the recognition and designation of properly trained dental specialists, grant fellowships by examination and encourage the establishment of training programs in the dental specialties in Canadian dental schools. Candidates for fellowship must be practitioners of one of the five specialties recognized by the C.D.A.: oral surgery, orthodontics, periodontics, prosthodontics and paedodontics.

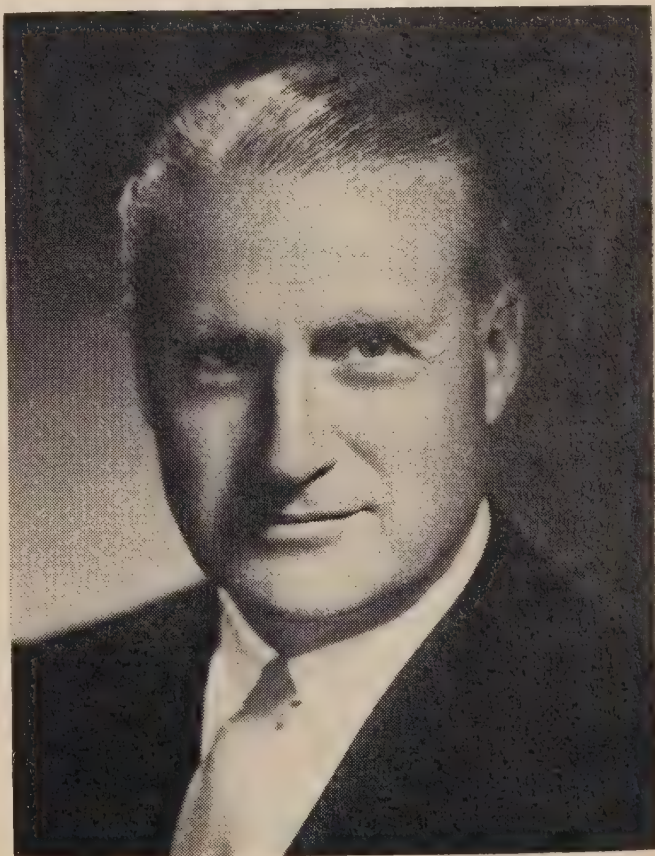
The purpose of this initial meeting of the provisional council was to draft by-laws and elect a new council. Delegates to the provisional council were four distinguished members from each of the three specialties which were recognized by the Canadian Dental Association up to the 1965 annual meeting. They included:

B. E. Brownlee of Winnipeg, Paul Geoffrion of Montreal, G. V. Fisk of Toronto and Gerald Franklin of Montreal, representing orthodontics;

J. W. Neilson of Winnipeg, W. F. Walford of Montreal, C. H. M. Williams of Toronto and P. J. Gitnick of Montreal, representing periodontics;

Antoine Raymond of Montreal, A. A. Antoni of Toronto, F. A. Smith of Vancouver and J. P. Coupland of Ottawa, representing oral surgery.

Members of the C.D.A.'s Specialists and Specialization Committee, whose preparatory work in past years paved the way for the Royal College, were also present at the meeting. They included: M. A. Rogers, Montreal, chairman; H. T. Oliver, J. J. McCarthy, J. D. Stewart and James McCutcheon, all of Montreal; and R. L. Scott of Brantford, Ontario.



F. A. Smith



The provisional council of the newly formed Royal College of Dentists of Canada held an inaugural meeting with the C.D.A. Specialists and Specialization Committee at Association headquarters in Toronto September 16-17 to draft by-laws and elect officers and new members of the council of the College. Seated from l. to r. are P. J. Gitnick, Montreal; J. P. Coupland, Ottawa; K. L. Croft, deputy secretary, C.D.A.; C.D.A. President P. S. Christie; C.D.A. Secretary W. G. McIntosh; Gerald Franklin, Montreal; G. V. Fisk, Toronto; and Antoine Raymond, Montreal. Standing l. to r. are C. H. M. Williams, Toronto; James McCutcheon, Montreal; J. D. Stewart, Montreal; R. L. Scott, Brantford, Ontario; J. W. Neilson, Winnipeg; W. F. Walford, Montreal; F. A. Smith, Vancouver; A. A. Antoni, Toronto; B. E. Brownlee, Winnipeg; H. T. Oliver, Montreal; and Paul Geoffrion, Montreal. Absent at the time of this photo was M. A. Rogers, Montreal, chairman of the C.D.A. Specialists and Specialization Committee.

FIRST COUNCIL ELECTED

The meeting concluded when the provisional council elected two members from each of the five currently recognized specialties as members of the College's first officially constituted council. The new council members are (first-named for three years, second-named for two years): G. V. Fisk and Paul Geoffrion (Division of Orthodontics); A. A. Antoni and F. A. Smith (Division of Oral Surgery); C. H. M. Williams and J. W. Neilson (Division of Periodontics); A. W. S. Wood, Toronto, and R. L. Scott (Division of Paedodontics); and C. H. Moses, Toronto, and W. D. Clark, Stoney Creek, Ontario (Division of Prosthodontics).

F. A. Smith, Vancouver, was elected inaugural president and a charter fellow of the Royal College. C. H. M. Williams, Toronto, is vice-president and A. A. Antoni, Toronto, is pro tem registrar-secretary-treasurer.

The Association

President Visits East

Canadian Dental Association President P. S. Christie of Halifax visited dental societies in eastern Canada during October. He was accompanied by Secretary W. G. McIntosh of Toronto.

Their schedule included meetings at Halifax October 18, Charlottetown October 19, Saint John October 20, Quebec City October 21, and the Montreal Dental Club Fall Clinic October 24-27.

C.D.A. Requests that Health Resources Fund Cater to Dental School Expansion

In a letter addressed to Prime Minister Lester Pearson, Canadian Dental Association President P. S. Christie specifically requested that provision be made under the federal government's proposed Health Resources Fund for the expansion and increase of dental health facilities.

Newspaper reports emanating from the July 19-21 federal-provincial conference had indicated that the fund would only be used to expand and increase medical schools, medical research institutes and teaching hospitals. No mention was made of dental schools and dental teachers.

In his letter of September 15, President Christie urged that "The dental needs of the Canadian people be recognized as an integral part of health care services by the provision of appropriate grants from the Health Resources Fund."

Listed by Dr. Christie as primary dental targets of the fund were:

To provide one half of the cost of constructing at least five new dental schools in the next 10 years including the dental schools now under development at the

University of British Columbia and the University of Western Ontario;

To provide one half of the cost of required expansion and renovation of existing dental schools;

To make available to universities having dental schools additional operating grants distributed on the basis of the number of students actually enrolled in specific dental schools;

To make available to dental schools funds to provide adequate resources in order to increase the ratio of full-time to part-time staff;

To make available to universities additional funds to enable dental schools to establish or expand graduate programs to train dental researchers and specialist-teachers to staff the schools;

To provide adequate grants to dentists undertaking postgraduate study in preparation for university teaching and dental public health work;

To provide funds to increase the number of research associates and research fellows at dental schools and make provision for scholarships to recent dental graduates not yet qualified as research associates;

To expand in Canada the amount of research on dental disease and prevention by increasing research grants to universities;

To provide grants to assist technical schools in establishing courses for the training of dental technicians and dental assistants; and

To provide a grant to provinces of 75 per cent of the cost of equipment and installation for fluoridating community water supplies.

Press reports emanating from the September 23-24 health ministers' conference indicate that dental projects will qualify for inclusion under the Health Resources Fund.

Fund to help finance expansion of the nation's health research and training facilities over the next 15 years.

Making the announcement at the opening of a two day conference of federal and provincial health ministers in Ottawa September 23-24, Prime Minister Lester Pearson said the fund would be available next January 1 for "construction, renovation and basic equipment of research establishments, teaching hospitals, medical schools and training facilities for other health personnel."

The money will not be allocated on a per capita basis. National and regional need will be the determining factor. Thus, a province which does not train its own health personnel but relies on institutions in other provinces will require a relatively smaller allocation, a government spokesman explained. Neither is Ottawa making assistance from the fund conditional upon a province entering the federal government's medicare scheme proposed at the July 19 federal-provincial conference, though Ottawa clearly hopes that all provinces will do so.

The grant, to be confined to capital expenditures, is intended as Ottawa's contribution toward the expansion of health research and training facilities needed to meet demands under the medicare program to be launched by July 1, 1967. The provinces, in turn, are expected to make contributions of their own.

Ottawa told the provinces that their medicare programs must provide a minimum of 90 per cent coverage at the outset and work up to 95 per cent within a few years in order to qualify for help from the national treasury.

Agreement was also reached that requests for grants from the Health Resources Fund must be channelled through provincial governments. Detailed regulations for operation of the fund are to be formulated by a special ad hoc committee composed of three Ottawa representatives, one representative from each province, two from the Canadian Medical Association, one each from the Canadian Dental Association, Canadian Nurses' Association, Canadian Hospital Association, Association of Canadian Medical Colleges, Medical Research Council and L'Association des Médecins de Langue Française.

Canada and the Provinces

Ottawa Offers \$500 Million Health Resources Fund

The federal government has offered the provinces a \$500 million Health Resources

Another meeting of health ministers will be held this winter in western Canada to consider these recommendations and other details of the medicare plan. Meanwhile, the provincial ministers are expected to seek decisions from their respective governments on whether or not they would participate in the scheme.

Health Parley Slated for Ottawa Nov. 28-Dec. 1

A conference on health services, to be attended by about 350 representatives, will be held in Ottawa's Chateau Laurier Hotel November 28 to December 1.

Bert Curtis, director of adult education for the Ottawa Collegiate Institute Board, and chairman of the conference's steering committee, said there would be three main objectives:

Provision of a national forum for discussion of the Hall Report and its implications for all Canadians;

Provision of a focal point through which the attention of Canadians could be directed to the Health Charter for Canadians as proposed in the Hall Report;

Initiation of an education and information program to be carried on by participating organizations in accordance with their own policies and decisions.

The conference is sponsored by 18 organizations, six of them with a combined membership in excess of 13 million. Sponsors include major religious denominations, national labour and farm organizations, Canadian Chamber of Commerce, national womens' organizations and other groups.

The Canadian Dental Association will send an observer, President-elect J. P. Coupland of Ottawa.

Dr. Paynter Appointed to Dominion Council on Health Committee

K. J. Paynter of the Faculty of Dentistry, University of Toronto, has been appointed a member of the Public Health Research Advisory Committee of the Dominion Council on Health. The appointment, which commenced on October 1, is for a three year period. This is the first time a

dentist has been invited to membership on this senior federal advisory committee.

International Items

Edgewise Therapy Course in Paris July 11-29, 1966

Paris orthodontist R. X. O'Meyer has announced the dates for the First European Postgraduate Course in Edgewise Therapy. The course will be held in the French capital during the three weeks of July 11-29.

Lectures and demonstrations will be in English. Course participants must possess a sound knowledge of orthodontics.

Lectures covering embryology, anatomy and facial growth and development will be given by internationally renowned instructors. They include Pierre Cernéa, E. H. Hixon, H. M. Lang, R. D. Payne, Kaare Reitan, R. E. Riedel, R. M. Ruff, Beni Solow and R. X. O'Meyer.

In view of limited attendance, early applications are invited and should reach Paris before December 1. The tuition fee is Fr. 2,500.00. Address applications to R. X. O'Meyer, course director, at 267 rue Saint-Honoré, Paris 1er, France.

F.D.I. Prize Offered

The Albert Joachim International Prize, valued at 50,000 Belgian francs, will be awarded at the 14th World Dental Congress in Paris in 1967 for an original and unpublished thesis on scientific research of a laboratory or clinical nature in the field of odonto-stomatology (dentistry).

Rules governing the award of this prize can be obtained from G. H. Leatherman, secretary-general, Fédération Dentaire Internationale, 35 Devonshire Place, London W.1, England.

The closing date for submitting theses is January 1, 1966.

Dental Nurses for Tasmania

New Zealand style dental nurses will be introduced to Australia's island state,

Tasmania, as part of a plan for improving dental health.

An orthodontic service is also envisioned.

The first group of 10 dental nurses will begin training in Hobart, the island's capital, next year. Ultimately some 30 dental nurses are expected to work under the control of district dental officers.

New Zealand to Regulate Technicians

The August *F.D.I. News Letter* reports progress in negotiations with New Zealand's dental technicians for the passage of legislation regulating the craft (see also September Journal editorial "New Zealand Revisited").

Current proposals call for the establishment of a dental technicians' board, registration, and adoption of training standards.

Previous negotiations foundered because the technicians insisted on the right of independent practice.

Trinidad Will Host Caribbean Meeting in February '66

The Dental Association of Trinidad and Tobago will hold the 5th Caribbean Dental Convention at Port-of-Spain, Trinidad, February 12-18, 1966.

Canadian dentists have been invited to attend the meeting which will cover oral surgery, prosthodontics, operative dentistry, endodontics, periodontics, paedodontics, crown and bridge prosthodontics, and practice administration.

Further information may be obtained by writing to K. H. Henry, convention chairman, Dental Association of Trinidad and Tobago, 110 Frederick Street, Port-of-Spain, Trinidad, W.I.

Prosthodontic Organizations Unite

Representatives of 10 prosthodontic groups met in Chicago August 21 and 22

to form the Federation of Prosthodontic Organizations.

Better prosthodontic service for the public, improved communication between member organizations, and improved communication with the American and Canadian Dental Associations are among the objectives of the new federation.

Representatives elected the following organizations to membership in the federation: The Canadian Academy of Prosthodontics, The Academy of Denture Prosthetics, The American Academy of Crown and Bridge Prosthodontics, The American Academy of Maxillofacial Prosthetics, The American Academy of Restorative Dentistry, The American Equilibration Society, The American Prosthodontic Society, The Greater New York Academy of Prosthodontics, The Pacific Coast Society of Prosthodontists, and The Southeastern Academy of Prosthodontics. Each member group is entitled to two delegates. Canadian representatives at the founding meeting were K. M. Kerr, Halifax, and W. G. Woods, Toronto.

Chairman of the new federation is C. O. Boucher. Chairman of the federation's publicity committee is V. L. Steffel, College of Dentistry, Ohio State University, Columbus, Ohio.

The first annual meeting of the federation will be held in Chicago on February 28, 1966.

Oral Cancer Symposium in Chicago on Dec. 1

A day-long symposium on oral cancer will be held on December 1 at the Blackstone Hotel in Chicago. Sponsored by the Chicago Unit of the American Cancer Society and the Chicago Dental Society, the symposium will cover techniques of cytology and biopsy, aetiology of cancer, and the dentist's role in the early detection of oral cancer.

For further information write to Mrs. W. C. Henrichsen, Chicago Unit, American Cancer Society (Illinois Division), 37 South Wabash Avenue, Chicago 3, Illinois, U.S.A.

Dental Organizations

B.C. College Appointments Announced

President L. E. English of the College of Dental Surgeons of British Columbia has announced further executive appointments following an organizational meeting held June 26.

Max Nacht, Vancouver, has been named registrar. D. J. Yeo, Vancouver, becomes treasurer.

The Executive Committee consists of L. E. English, Kamloops, and J. G. Ryan, M. J. Waterman and D. J. Yeo, all of Vancouver.

Mouth Protectors Featured at Vancouver Ex.

The British Columbia Dental Association presented a mouth protector demonstra-

tion at this year's Pacific National Exhibition. Seven hundred and fifty high school students were fitted with mouth protectors in a campaign aimed at preventing dental injuries in contact sports. Forty-eight dentists, who manned the dental exhibit during the 17 day exhibition, answered countless enquiries about dentistry and dental health and distributed thousands of brochures to the public.

Spokane Group Gives Clinic in B.C. Kootenays

Kootenay dentists listened attentively to a presentation on direct gold inlays when their society met at Boswell, British Columbia, on September 18. Clinicians for this occasion were drawn from the Lilac City Gold Seminar, an international study group with members in Washington, Idaho and the B. C. Kootenays.

New officers of the Kootenay society chosen at this meeting are: J. P. Bekker, Grand Forks, president; M. R. Bayes, Castlegar, vice-president; and D. R. Sortome, Kimberley, secretary-treasurer.

Manitoba Midwinter Meeting Jan. 21-22

The annual meeting of the Manitoba Dental Association and the Manitoba Midwinter Clinic has been set for January 21-22, 1966.

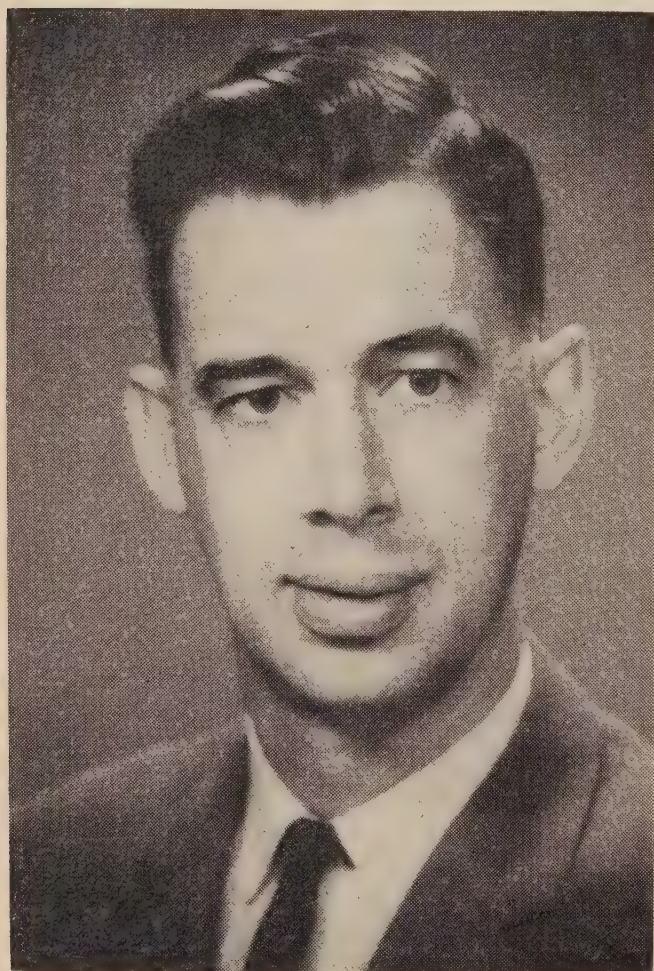
The featured clinician is M. M. DeVan, chairman of prosthetic dentistry, Graduate School of Medicine, University of Pennsylvania. Dr. DeVan will discuss partial dentures.

Peterborough Dentists Select Woodside

J. D. M. Woodside was recently elected president of the Peterborough (Ontario) and District Dental Society. J. A. Bimm is secretary-treasurer.

Technicians Reject Mechanics in Nova Scotia

By adoption of by-laws at a recent meeting, the Nova Scotia Dental Technicians



D. E. Waller of Prince George was recently elected president of the British Columbia Dental Association.

Association has, in its own words, "firmly rejected the overtures of the so-called dental mechanics who have sought to infiltrate our ranks."

With encouragement from the provincial dental association, the technicians' group was given legal status by the legislature earlier this year. President of the dental technicians is R. L. Lynds of Rockingham, Nova Scotia.

Canadian Dental Schools

Dental School for Saskatchewan

After years of urging by the dental profession and others, the Saskatchewan government has announced allocation of \$2¼ million to open a dental faculty at the Saskatoon campus of the University of Saskatchewan.

Education Minister George Trapp said the new school should be able to accept its first students in 1967. Although no specific site has been chosen, the school is expected to become part of the university hospital-medical school complex. Hopes are that the new school could graduate 30-35 dentists each year beginning in 1971. A school of dental hygiene is likely to be included.

Establishment of a dental school in Saskatchewan has been suggested for many years, particularly by the dentists of the province and by the Canadian Dental Association. It was recommended by the Advisory Planning Committee on Medical Care (Saskatchewan 1962) and by the Royal Commission on Health Services.

This is the third new dental school announced in the past three years, making a total of nine.

Alberta's Dr. McClelland at Ohio State U.

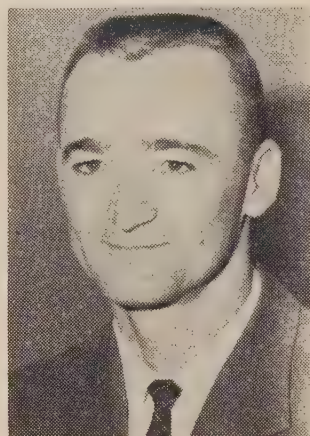
R. C. McClelland, a 1950 University of Alberta graduate, is attending Ohio State University to pursue a program leading to the master of science degree in prosthodontics.

Dr. McClelland joined the Alberta faculty in 1952 on a part-time basis, and presently holds the rank of associate professor.

Alberta Professor Addresses Tokyo Congress

O. N. Lucas, assistant professor in the Faculty of Dentistry, University of Alberta, presented a paper on "Experimental Haemorrhage Due to Central Nervous System Excitants and Depressants in Rats Receiving Anticoagulants" at the International Congress of Physiological Sciences, Tokyo, September 1-9.

Following the Tokyo meeting Dr. Lucas visited Taipei, Formosa; Hong Kong and Manila. While in Manila Dr. Lucas was invited to lecture to the Department of Oral Surgery, State University, Philippines, on "Local and Systemic Haemostatic Agents" and "Laboratory Technique for Evaluation of the Haemostatic Mechanism."

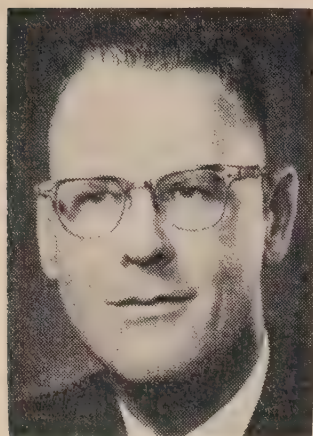


D. E. W. R. Marquis

Dr. Marquis Joins Alberta Faculty

D. E. W. R. Marquis, formerly of Nelson, British Columbia, has been appointed assistant professor in the Department of Operative Dentistry, University of Alberta, as from August 1, 1965.

A 1965 Alberta graduate, Dr. Marquis, after leaving Notre Dame College, Nelson, spent a number of years working in Nelson, then in 1960 registered in the Faculty of Dentistry at the University of Alberta.



W. J. Simpson

Simpson Heads Alberta U. Paedodontic Dept.

W. J. Simpson, formerly of Niagara Falls, Ontario, has been appointed head of the Department of Paedodontics at the University of Alberta. He succeeds C. R. Castaldi who recently left to take up a new appointment at the University of Manitoba.

A 1950 graduate of the University of Alberta, Dr. Simpson practised in Niagara Falls from 1950 to 1963. In recent years his practice was limited to children.

Dr. Simpson returned to the University of Alberta in 1963 to pursue graduate studies culminating in the M.Sc.D. degree.

Alberta Course Lengthened to Six Years

Six years at university are now required for a dental degree at the University of Alberta.

Effective with the current academic year, two years of arts and science are required prior to admission to the Faculty of Dentistry. Only one year had been required previously.

Aptitude Testing Reduces Student Drop-out Rate

Pre-admission aptitude tests drastically reduced the drop-out rate resulting from scholastic deficiencies, a dental education expert recently told Canadian and American dental teachers.

T. J. Ginley, Chicago, director of the Division of Educational Measurements,

American Dental Association, said that since 1950, about 80,000 dental school applicants in the United States have been examined.

Addressing the 42nd annual session of the American Association of Dental Schools, held in Toronto July 25-28, Mr. Ginley pointed out the primary objective of this testing program, which has been conducted by the A.D.A. Council on Dental Education in co-operation with the American Association of Dental Schools. Our principal aim, he said, is the reduction of the student attrition rate resulting from scholastic deficiencies.

Since its inception, the number of students participating in the testing program has increased significantly, he added. About 80 per cent of the accepted students have completed three or more years of pre-professional education and the trend by dental schools to accept students with more than minimum qualifications is quite pronounced, Mr. Ginley stated.

At the Quebec City annual meeting, the Canadian Dental Association's Board of Governors approved the utilization of A.D.A. aptitude tests with modifications appropriate for use in Canada.

'Exchange' TV Clinics for Dental Schools

Dental schools may soon exchange TV programs to instruct students in the latest clinical procedures, according to a Toronto educator.

A. C. Manis, Faculty of Dentistry, University of Toronto, told the 42nd annual session of the American Association of Dental Schools, held in Toronto July 25-28, that closed-circuit live television clinics, which are now commonly used in many dental schools, could be put on video tape.

"These taped clinics could form part of a library which could be exchanged with other dental schools. New procedures could be taped and sent to a number of schools for study and comment," he added.

Dr. Manis also predicted two other advances in using television in dental education.

Use of colour instead of black and white pictures would give a more detailed illustration of the various colours and shades of oral tissues. He also said that giant screens would eventually replace the small television receivers now being used for receiving closed-circuit television clinics in the schools.

New Staff Appointments at U. of T.

Dean R. G. Ellis of the Faculty of Dentistry, University of Toronto, has announced the following new full-time appointments effective September 1, 1965.

Kathryn MacKenzie has joined the dental hygiene teaching staff. Miss MacKenzie earned the Diploma in Dental Hygiene in 1956 and subsequently obtained a B.A. degree from McMaster University in 1963. Miss MacKenzie has had eight years of public health experience at Moncton, New Brunswick, and in Halton County, Ontario.

D. W. Lewis has been appointed assistant professor of dental public health. Dr. Lewis graduated in 1959 from Toronto's Faculty of Dentistry. He earned a Diploma in Dental Public Health in 1962. From 1962 to 1964 Dr. Lewis was dental director for the Kingston, Ontario, health department. He completed a graduate program leading to the M.Sc.D. degree during the past summer.

Promotions also went to: A. M. Hunt, professor, and in charge of dental public health; E. P. Downton, professor; and K. W. Davey, associate professor.

Royal Canadian Dental Corps

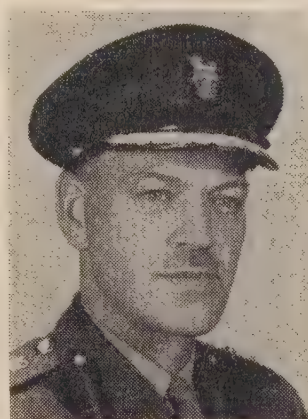
Brig. Baird and Col. Craigie at E.O.D.A. Convention

Brig. K. M. Baird, Director General of Dental Services for the Canadian Forces, and Col. L. G. Craigie, senior consultant for the R.C.D.C., attended the annual convention of the Eastern Ontario Dental Association at Montebello, P. Quebec, September 20-22.

Col. Millar and Lt.-Col. Brown Retire

Two senior dental officers have retired from the Royal Canadian Dental Corps.

Col. I. A. L. Millar, Deputy Director General of Dental Services for the Canadian Forces, retired in September. Born in Matapedia, P. Quebec, Col. Millar graduated from Dalhousie University in 1938 and practised in Liverpool, Nova Scotia. In 1939 he was commissioned as lieutenant in the Canadian Dental Corps. He was posted as captain to the United Kingdom in September 1941. His overseas service included participation in the D-Day landings on June 6, 1944 as a dental officer with the 14th Canadian Field Ambulance. On return to Canada as a major in September 1945, Col. Millar enrolled in the Canadian Army Regular Force and served in Eastern Canada until posted to the west coast at H.M.C.S. Naden in March 1947.



Col. I. A. L. Millar

Appointments held by Col. Millar include: instructor and later commandant of the R.C.D.C. School; senior specialist to No. 13 Dental Company; commanding officer of No. 27 Field Dental Unit; and command dental officer, Western Command. From June 1963 until retirement he was Deputy Director General of Dental Services. Col. Millar was awarded the Canadian Forces Decoration and held the appointment of Queen's Honorary Dental Surgeon. He is a fellow of the International College of Dentists.

Col. Millar has now been appointed chief dental officer for the Ottawa Public School Board.

Lt.-Col. R. E. Brown, a graduate of the University of Toronto, retired after 23 years continuous military service.

He was employed at various locations throughout Canada and was overseas with No. 20 Canadian Field Dental Unit in Korea and No. 1 Field Dental Unit, Canadian Brigade, Germany. His last appointment was as senior clinician at the Treatment Wing, R.C.D.C. School, Camp Borden, Ontario. He will now be employed as a Civil Service dental officer in London, Ontario.

Col. Kearney Appointed DDGDS

Canadian Forces Headquarters has announced the appointment of Col. B. P. Kearney as Deputy Director General of Dental Services for the Canadian Forces.

A native of Galt, Ontario, Col. Kearney graduated in 1936 from the University of Toronto and spent the following year at the Forsyth Dental Infirmary for Children, Boston. He then entered private practice in Toronto until 1939. From 1939 to 1940 he studied under a Rockefeller Research Fellowship at the School of Medicine and Dentistry, University of Rochester, New York.

In May 1940 Col. Kearney was commissioned in the Canadian Dental Corps. He served overseas for three years in the United Kingdom and north west Europe until his return to Canada in September 1945. In 1946 he enrolled in the Canadian Army Regular Force.

Besides serving in various locations in Canada, appointments held by Col. Kearney include: 1946-1949 Directorate Staff, Ottawa; 1950 an instructor at the R.C.D.C. School; 1953 commanding officer of No. 25 Field Dental Unit, Korea; 1954 senior specialist to No. 13 Dental Company, Trenton, Ontario; 1957 commandant of the R.C.D.C. School, Camp Borden, Ontario; 1961 commanding officer of No. 11 Dental Company, Edmonton, and command dental officer, Western Command. In September 1965 he assumed his present appointment as Deputy Director General of Dental Services at Canadian Forces Headquarters, Ottawa.

Col. Kearney is a Member of the British Empire and was awarded the Canadian

Forces Decoration and the Parachutist Wing. He is a fellow of the International College of Dentists.



Col. B. P. Kearney

Five Officers Attend Captain to Major Qualifying Course

The following dental officers attended the captain to major qualifying course at the R.C.D.C. School, Camp Borden, Ontario, from September 13 to October 22: Captains **N. H. Andrews**, R.C.A.F. Station, Portage La Prairie, Manitoba; **M. N. Deyette**, headquarters, Western Ontario Area, London, Ontario; **J. F. A. Marcil**, College Militaire Royal, St-Jean, P. Quebec; **N. A. McFarlane**, No. 4 Field Dental Company, Germany; **W. E. Russell**, R.C.A.F. Station, St-Jean, P. Quebec.

Three Officers Take Professional Training

Three dental officers have taken professional training courses during the fall.

Lt.-Col. **L. R. Pierce**, H.M.C.S. Naden, Esquimalt, British Columbia, attended a course in periodontics at the U. S. Naval Dental School, Bethesda, Maryland, from September 27 to November 12.

Majors **C. Brown**, headquarters, No. 14 Dental Company, Winnipeg, and **J. J. Walker**, Currie Barracks, Calgary, attended courses on complete prosthodontics and crown and bridge prosthodontics respectively at the University of Michigan, Ann Arbor, Michigan, from September 13 to 24.

Capt. Kyle to Cold Lake, Alta.

Capt. W. R. Kyle was posted in September from R.C.A.F. Station, Trenton, Ontario, for employment at R.C.A.F. Station, Cold Lake, Alberta.

Capt. Moran Leaves Corps

Capt. R. L. Moran, Scarborough, Ontario, has completed his tour of duty with the Royal Canadian Dental Corps and was released on September 4.

Economics**Convict 93 for Illegal Practice in Quebec**

Ninety-three persons were convicted for practising dentistry illegally in Quebec last year, according to the August issue of *Information* published by the College of Dental Surgeons of the Province of Quebec.

Reporting to the C.D.S.P.Q. Board of Governors, L.-P. Dubé, Quebec City, said that fines totalling \$24,000 were levied between July 1, 1964 and July 1, 1965.

Ontario Dental Welfare Coverage Extended

Ontario's dental welfare plan has been slightly extended to cover all children and parents who are beneficiaries of mothers' allowances and assistance to dependent fathers. The new provisions became effective in June.

Apparently some beneficiaries have misinterpreted this to mean that they are entitled to complete dental care. This is incorrect.

The agreement between the Royal College of Dental Surgeons of Ontario and the Ontario Department of Public Welfare covers "preventive examinations, extractions, fillings, necessary radiographs and prophylaxes, but does not include prosthodontic and orthodontic services."

Says R.C.D.S. Business Administrator W. E. Jackson: "It is apparent . . . that the

government did not intend, at this time, for the profession to provide prosthodontic or orthodontic services to beneficiaries."

Fluoridation**Ottawa Fluoridates in October**

Fluoridation began in the nation's capital on October 15, an official of the Health League of Canada has revealed. Ottawa's water system serves 320,000 residents in the city of Ottawa, Eastview, Rockcliffe Park and parts of Nepean and Gloucester Townships.

Belleville, on Lake Ontario, also expects to start fluoridation in early autumn. The city supplies water to 32,000 residents including 100 persons in adjacent Sidney Township.

New York City Starts Fluoridation

Fluoridation in North America's largest city began on September 7. This marks the successful culmination of a fight that raged for 10 years, with the opponents insisting that harmful effects — particularly on older persons with chronic ailments—offset possible advantages.

Medical and dental experts overwhelmingly favoured fluoridation at city hearings in November 1963. Thereupon Mayor Robert Wagner urged immediate approval of the measure, asserting it was "effective, safe and urgently needed." The mayor opposed a demand for a city-wide referendum on grounds that it was merely a delaying tactic.

Final legislative approval from the New York Board of Estimate came on December 12, 1963. Further delays resulted from lawsuits to block the action and technical construction problems.

Fluoride is introduced to New York's water at nine stations, the three largest to treat water from the Kensico and Croton Lake reservoirs in Westchester and from a stand-by pumping station on Long Island.

Public Health

P. H. Dentists Study Specialization, Salaries, Recruitment at Edmonton

Sixteen dentists from various parts of Canada attended this year's meeting of the Canadian Public Health Association in Edmonton May 31 to June 3.

The Dental Section conducted two business sessions—June 1 and 3—to deal with the many items that had accumulated since the 1964 annual meeting in Winnipeg. Featured on the agenda were: recruitment of dental public health personnel; public health dentistry as a specialty and its relationship to the Royal College of Dentists of Canada; dental aspects of the 5th revision of the C.P.H.A. "Recommended Qualifications, Requirements and Minimum Salaries for Public Health Personnel in Canada" (published in the April 1965 *Canadian Journal of Public Health*); dental aspects of a C.P.H.A. statement on Volume 1 of the Report of the Royal Commission on Health Services (published in the November 1964 *Canadian Journal of Public Health*); a C.P.H.A.

policy statement on fluoridation; and possible development of further policy statements on dental public health, preventive dentistry for children, and dental auxiliary services in dental public health.

To improve continuity in the conduct of dental section business, the members established a new office of 'Continuing Secretary.' C. A. McCabe, Ottawa, was named continuing secretary for a minimum of two years. The Dental Section also named H. S. Grey, Toronto (M. E. Jarrett, Fergus, Ontario, alternate) as an observer at the next meeting of the Canadian Dental Association's Council on Public Health.

L. J. Bonneau, Quebec City, succeeds A. T. Salter, Edmonton, as chairman of the Dental Section. F. A. Kohli, Toronto, is vice-chairman and Henri Tourigny, Magog, P. Quebec, is secretary.

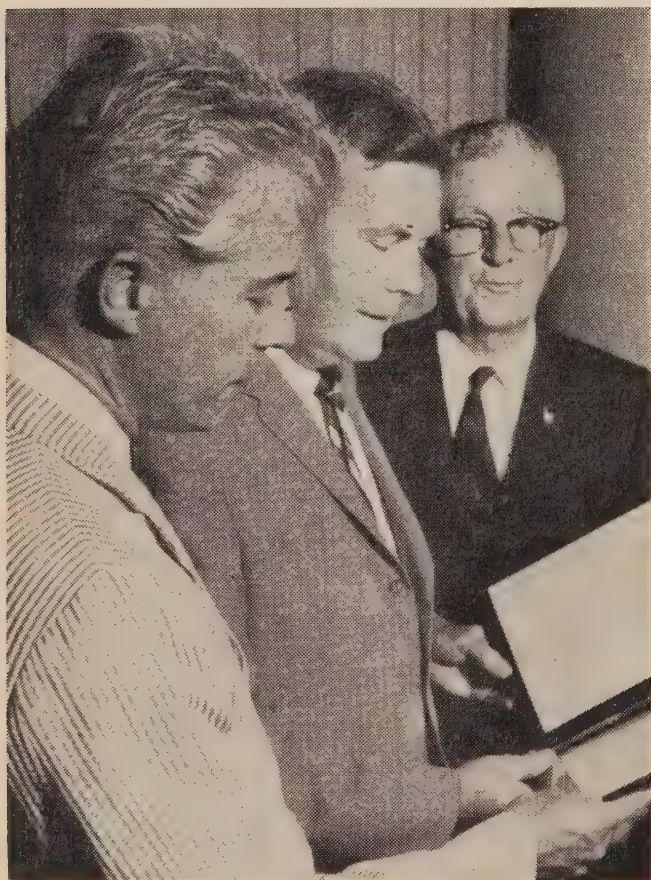
The 1966 C.P.H.A. annual meeting will be in Quebec City.

Awards and Honours

M. V. J. Keenan, prominent Sudbury practitioner and a former president of the Canadian Dental Association, was honoured by his colleagues of the Northern Ontario Dental Association during that organization's silver jubilee meeting at Killarney Mountain Lodge, Killarney, Ontario. Dr. Keenan was one of the founders of the N.O.D.A. in 1940.

"His record of achievement has never been matched in the history of the N.O.D.A. . . .," said L. H. McCool of North Bay who presented a special achievement scroll to Dr. Keenan's son Michael during the annual N.O.D.A. dinner September 11. Because of a prior overseas commitment, the actual presentation to Dr. Keenan was made earlier on August 4.

M. V. J. Keenan of Sudbury (centre) recently received a special scroll of achievement from the Northern Ontario Dental Association. Flanking Dr. Keenan are (l.) N.O.D.A. President G. P. Copeland, Sudbury, and (r.) L. H. McCool, North Bay.



The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

Relative Value Fee Method

To the Editor:

The statement made by Dr. Harvey Jenkins in the October Journal deserves some comment.

The relative value system of fee determination was not intended to be a mathematical equation. It was an attempt to develop principles for relating dental services to each other so that differences in fees for specific services could be rationally explained. This is not to say that in the future some provincial body could not introduce mathematical refinements into the system.

If the C.D.A. had intended to formulate a national fee schedule, it would have taken the very action Dr. Jenkins feels should have been taken. The C.D.A. would have retained a professional mathematician as

consultant. The C.D.A. believes, however, as does Dr. Jenkins, that the development of a fee schedule is not a subject within its jurisdiction.

The C.D.A. has provided only *guidance*. The relative value system is not a fee schedule. It is simply a guide to a method of determining fees—a guide that is more rational than other methods known to me at this time. As a guide it is an inoffensive aid. It is not law. It has no authority. It seeks only consideration by interested bodies and individual practitioners.

The American Society of Oral Surgeons and the California Medical Association have conducted relative value studies and issued detailed lists of procedures and relative values, subject to yearly review.^{1, 2}

If I were graduating this year and starting dental practice I would prefer to base my fees on the principles of the relative value system rather than on local custom or ad hoc tradition. The principles of time and responsibility cannot be negated because one does not see the proper mathematical progression in the final formula.

The relative value system as published in the C.D.A. *Transactions* is not the end to all problems in fee determination. The responsible subcommittee realized this and indicated this by the statement that "nothing was final." The 17 pages of the report in *Transactions* may not read like a James Bond novel but it is hoped that many a practitioner will take the time and effort to read the report, whether he agrees with it or not, and at least consider the validity of the principles presented.

R. A. Clappison, D.D.S.,
Chairman, C.D.A. Dental Services Committee.

1. American Society of Oral Surgeons. Committee on Health Service Plans. Services provided by oral surgeons and relative values (subject to yearly review and revisions). August 1952. Brochure.
2. California Medical Association. Relative value studies 1960. Ed. 3. Prepared by the Committee on Fees of the Commission on Medical Services of the California Medical Association, September 10, 1960.

Résorptions dentaires et biologie osseuse

Maurice Bouyssou, F. H. Lepp and Carl Zerosi. Liège, Sciences et Lettres, 1965. 613 p. Illus. Cartonné 12 Fr. belges ou \$ U.S. 24.00

In an era when oral pathology is drifting far from the oral cavity this book shows that there is still a challenge in teeth for the dentist using clinical observation and optical microscopy.

The first part studies the generalities of the resorption of bone and teeth and their relation to certain problems of bone biology. The approach is mainly histological. The second part deals in detail with various forms of tooth resorption. Clinical, radiological and histological characteristics of each group are described. Pathogenesis is indicated, and many examples of resorption are cited together with the appropriate treatment.

The book is written in the style cultivated by certain schools: meticulous explanations, hypothesizing, thorough review of anything remotely related to the subject, with an abundance of rhetoric figures. It contrasts with the uniformity of strictly regulated periodicals, but the reasoning of these experienced authors is quite stimulating, even if one sometimes disagrees. The style and many repetitions increase the volume of the text; the book could be reduced maybe to less than half its size without omitting any facts related to the subject.

The bibliography is very thorough but the arrangement is impractical: the name of the author is given three times, the year twice, and the titles of the articles not at all. The order does not correspond with the text nor is it completely alphabetical. The quality of the paper, print and figures are very good. A summary in English allows it to be used even by readers who do not understand French.

A une époque où la pathologie buccale tend à s'écarter de plus en plus de la cavité buccale, ce livre prouve que les dents peuvent présenter encore beaucoup d'intérêt pour un dentiste qui désire employer l'observation clinique et le microscope optique.

La première partie de l'ouvrage s'intéresse aux généralités histologiques de la résorption de l'os et des dents en rapport avec certains problèmes de biologie osseuse. La seconde partie traite en détails des diverses formes de la résorption des dents. On y décrit les caractères cliniques, radiologiques et histologiques. On discute de la pathogénèse et l'on donne de nombreux exemples de résorption en mentionnant les traitements appropriés.

Ce livre est écrit dans un style qu'on cultive dans certains milieux; explications méticuleuses, hypothèses, discussions de nombreux sujets à peine pertinents, le tout avec une abondance de figures de style, ce qui diffère beaucoup du style uniforme qu'exigent les périodiques. Cependant la pensée de ces auteurs expérimentés ne manque pas d'intérêt, même si l'on peut occasionnellement différer d'opinion avec eux. Le style et les répétitions nombreuses allongent inutilement le texte. On pourrait probablement réduire de plus de la moitié l'épaisseur de ce volume sans rien omettre d'essentiel.

La bibliographie est complète mais disposée d'une façon peu pratique: on donne trois fois le nom de l'auteur, deux fois l'année, mais souvent on omet le titre même de l'article. L'ordre des références ne correspond pas au texte, et n'est pas non plus par ordre alphabétique. Les qualités du papier, de l'impression et des illustrations sont très bonnes. Le résumé anglais rend cet ouvrage accessible au lecteur qui ne comprend pas le français.

Z. Mézl

Dental Radiology

A. H. Wuehrmann and L. R. Manson-Hing. St. Louis, C. V. Mosby Company, 1965. 436 p. Illus. \$15.00

This book by Drs. Wuehrmann and Manson-Hing of the University of Alabama School of Dentistry is a must for the serious-minded undergraduate and for the practising dentist who desires to render an improved radiological service to his patients. Both authors are well and favourably known in dental radiology and it behooves one to read, study

and follow carefully the instructions and information laid down in this book. Both authors are personally known to the reviewer and their text reaffirms the high esteem in which they are held.

This book of 418 pages and 192 suggested readings is printed on good quality paper, in single format style, with 298 illustrations including a number of schematic or line drawings which materially assist the reader in understanding the subject matter discussed.

The first three chapters give an excellent review of the fundamentals of radiography and the factors relating to the production of diagnostic radiographs. Chapter 4 dealing with the hazards of and protection against radiation is extremely well presented. While not exhaustive, it covers this important subject in an able manner and at a level which can be readily grasped by the dentist who is not specifically trained in radiation physics. It also serves to emphasize, as it should, that while we are dealing with a potentially dangerous diagnostic tool, the means are nevertheless at our disposal to use this most useful apparatus with safety to our patients, ourselves, and our assisting staff.

Intra-oral radiographic techniques, using both the bisecting and paralleling principles, are given thorough coverage and adequate illustration. Extra-oral techniques, both those commonly in use as well as specialized techniques, are well presented and the latter should be very useful to readers desiring to enlarge their field of radiography.

Chapter 9 provides an excellent introduction to the necessity for good technique and the scope and application of various radiographic surveys.

As an introduction to the study of normal radiographic appearance there is an excellent chapter on skull osteology illustrated by 10 exceptionally clear plates. This brings back to mind the bony anatomy of the head which we are sometimes prone to forget when viewing a three dimensional image on a two dimensional film.

Chapter 14 deals very adequately with radiographic recognition of the common diseases of teeth and their supporting structures including considerable detail on the evidence of caries. After studying this chapter carefully the general practitioner can not help but interpret his radiographs in a much more intelligent manner.

In the following chapter, 75 pages are devoted to the radiographic images of diseases from the standpoint of aetiology. This chapter covers developmental disturbances, diseases due to biological agents, pathological changes due to physical agents, cysts, neoplasms, hormonal, nutritional and metabolic disorders, and miscellaneous pathological conditions.

A most useful section, and one not usually covered in texts of radiology, appears in chapter 16. Here we find a discussion of "roentgenographic criteria of a general nature observed in alterations of osseous tissue." This is an extremely important chap-

ter and should be of considerable help in the interpretation of radiographic images. Another useful chapter is devoted to clinical laboratory tests which have a special value in the interpretation of the radiographic image.

The final chapter is of interest in that it deals with specialized radiographic systems such as mass radiography or panoramic radiography.

This reviewer again emphasizes most strongly the high calibre and outstanding coverage of this new text on oral radiology. It should be in the hands of every student or graduate desiring to improve his position by making more extensive use of radiology.

H. M. Eaton

Fundamental Techniques of Plastic Surgery and Their Surgical Applications

I. A. McGregor. Ed. 3. Edinburgh and London, E. & S. Livingstone Ltd., 1965. (Available from The Macmillan Co. of Canada Limited, Toronto) 300 p. Illus. \$6.25

In the first chapter dealing with wound care there are a number of commonsense observations of which it is good to be reminded. Placing the incision lines on the face in the "lines of election" (not synonymous with Langer's Lines) — and undercutting the skin to relieve tension before skin suturing are useful reminders. A brief review of a few standard instruments and suture materials is also worthwhile. The author favours the instrumental method of suture tying because of exactitude and expedition as well as better control of tension and knot placement. This is convincing. One might add it avoids unnecessary wastage of suture material.

Relative to the technique of wound suturing, interrupted sutures are claimed to be the best in most cases. This is usefully supplemented with vertical mattress sutures in selected cases. Emphasis is given to the sinister consequences of haematoma. This most undesirable sequel to skin surgery brings on complications, such as infection and excessive scar formation. Pressure dressings are also invariably useful. Another detail worth noting is that the cut suture is removed toward the wound to minimize the possibility of separation of wound edges.

There is a very useful and lucid discussion on Z-plasty. Where indicated, it should not be avoided, though this does mean additional cutting. The chapter on free skin grafts stimulates one to consider greater utilization of this method in surgery of the oral cavity, as in ridge extension. The contraction of the tissues on healing, however, is to be allowed for.

There are some chapters of lesser interest to dentists or oral surgeons, such as the one on hand surgery and surgery of the eyelids. However, there is a chapter on maxillofacial

injuries which is useful in providing a perspective on the methods commonly used in different countries. Cast cap splints and plaster head caps are given preference in Britain, whereas on the North American continent direct wiring methods are generally favoured, along with arch bars and intermaxillary fixation. This chapter has much to offer in touching on the highlights of significance in maxillofacial surgery. Generally, *Fundamental Techniques of Plastic Surgery* is a useful and an inexpensive book to add to one's library. It is recommended to oral surgeons.

P. T. Smylski

Begg Orthodontic Theory and Technique

P. R. Begg. Philadelphia and London, Saunders, 1965. (Available from McAinsh and Co. Limited, Toronto) 364 p. Illus. \$23.80

In orthodontics as well as in other walks of life some men lead while others follow, and of those who do lead a few are creative. The author of this text is well recognized as a creative leader in orthodontics, whose ideas have had a stimulating effect on the thinking and practice of most orthodontists on this continent in the past decade.

This text is an extension of Dr. Begg's previous writings in the *American Journal of Orthodontics*, a complete presentation of his philosophy and treatment methods. His material is presented in detail in 20 chapters, two of which have been contributed by friends who use his technique. The first is a record of a number of cases treated by the Kesling and Rocke Orthodontic Group and the second, a cephalometric appraisal of the technique by R. T. Williams.

This well illustrated text is a worthwhile addition to any orthodontist's library and the second, third, fourth and fifth chapters, particularly, can be read profitably by all dentists and dental students.

R. D. Leuty

L'Orthodontie française: Volume 35 — 1964, Tome I et II

J. E. Heskia, rédacteur. Lyon, France, Edition de la Société française d'orthopédie dento-faciale, 1964. Tome I 629 pages, Tome II 284 pages. Illus. F100—

Ces livres sont un recueil des conférences et discussions données au 37ème congrès annuel de la Société française d'orthopé-

die dento-faciale, sis à Paris du 8 au 13 mai 1964.

La qualité du papier, la clarté du texte, les nombreuses illustrations font de ce livre un ouvrage très bien présenté. Cependant le titre devrait être "Orthodontie Internationale" puisqu'en fait, les articles rapportés nous mettent en contact avec les grands de l'orthodontie internationale tels que: Alstadt, Cousin Gugny, Halden, Heyberger, Korkhaus, Sicher, Wagers, Ziegler, etc.

La discussion de tous ces articles est parfois plus longue que l'article lui-même. Elle est assez acerbe que c'est à se demander si des orthodontistes français n'ont pas fait venir tous ces grands de l'orthodontie pour avoir le plaisir de les critiquer. Tout ceci rend la lecture de ces livres fastidieuse.

Je classerais le livre L'orthodontie française comme étant un livre de référence devant être dans toutes bibliothèques d'université ou d'association sans en recommander l'achat à un praticien en bureau privé.

Claude Baril

Essentials of Removable Partial Denture Prosthesis

O. C. Applegate. Ed. 3. Philadelphia and London, W. B. Saunders Co., 1965. (Available from McAinsh & Co. Limited, Toronto) 436 p. Illus. \$16.20

The third edition of this book brings up to date a text that was a very complete study of the various factors and materials that lead to the development of a successful removable partial denture prosthesis. Additional material has been added. There are 60 or more illustrations, a new chapter on "Electroformed Casts and Dies" by G. E. Myers and there is more detail in the section of "Clinical Procedures."

The importance of preliminary study and mouth preparation is discussed fully. The author painstakingly offers his justification for each procedure and lists ways of overcoming difficulties that may be encountered. His chapters on the types and the handling of impression materials are very detailed and while most of this information should really have been given to the student in his dental materials course, it does perhaps help to refresh his memory and to re-emphasize important points. For the dental practitioner it is a refresher course providing a fund of practical information.

Towards the end of the text are 30 pages dealing with five unusual clinical situations. The difficulties in each case are described and the treatment fully discussed and a beginning made on "Postinsertion Reports." Students and practitioners should find this text most helpful.

O. J. Yule

Relative value method of fee determination

R. A. Clappison, D.D.S., W. W. Pressey, D.D.S. and
R. C. Freeman, D.D.S., Toronto, Ontario

The relative value method of fee determination here described relates dental services to each other in terms of time, skill and responsibility required to perform the services and establishes a scientific basis for determining dental fees. This system is not a fee schedule. It provides relative value units for a wide range of dental services. These units can be adapted to differences and changes which occur in clinical practice. Anyone who wishes to establish fees by this method can convert the units into fees.

■

Les auteurs décrivent ici une méthode dite de valeur relative qui sert

à établir les honoraires; ceux-ci déterminent les facteurs temps, habilité et responsabilité inhérents à chaque opération dentaire. C'est l'importance relative de chacun de ces trois facteurs qui permet d'établir l'honoraire d'une façon scientifique. Il ne s'agit pas là d'une échelle d'honoraires. Il s'agit plutôt d'un système qui détermine des unités de valeur relative correspondant à une grande variété d'opérations dentaires. Ces unités sont suffisamment flexibles pour s'adapter aux différences et aux changements que l'on rencontre dans l'exercice clinique. Au besoin, il est facile de se servir de la valeur de ces unités pour établir des honoraires.

A relative value system is a scientific device to render dissimilar services comparable and by which closely similar services can be differentiated. It is based upon a relative value unit which makes allowance for the variables inherent to clinical practice.

All dental services in this system bear

a constant relationship to each other; yet in the final application of the formula there is flexibility which allows for variations attributable to geographic location and modes of practice.¹⁻⁵

PRINCIPLES

In order to compare services there must be a clearly defined base to which com-

Based on a panel discussion presented at the national convention of the Canadian Dental Association, Quebec City, May 31, 1965

TABLE 1 Basic classification of responsibility (R) factors.

Class I (Factor 1)	Class II (Factor 1.25)	Class III (Factor 1.50)	Class IV (Factor 1.75)
Amalgam restorations (one surface)	Amalgam restorations (two or more surfaces)	Biopsy	Advanced endodontic treatment (apical curettage, etc.)
Dental caries detection test	Clinical examination	Complete dentures	
Denture adjustment	Conservative periodontic treatment	Cast metal posts and copings	Advanced periodontic treatment
Diet analysis and recommendations	Consultation and treatment presentation	Crowns	Fixed bridge restoration
Emergency treatment (palliative)	Cytological examination	Diagnosis and prescription of services	Fraenectomy
Finishing restorations	Denture rebasing	Endodontic treatment	Inlays or veneers with retentive pins
Oral hygiene instruction	Denture relining	Gold foil restorations	Interceptive orthodontic treatment (appliance therapy)
Prophylaxis	Denture repairs	Inlays (including veneers)	
Pulp testing	Diagnostic models	Preventive orthodontics (space maintenance)	Occlusal correction
Radiographic examination	Displacement dressing (packing)	Provisional splinting (ligation)	Reinforced amalgam restorations (pins)
Recementation of inlays or crowns	Examination and diagnosis of injuries to the teeth and supporting structures	Pulpotomy	Surgical removal of erupted teeth requiring surgical flap technique
Removal of calculus (maintenance procedure)	Emergency treatment requiring sutures	Recementation of bridge	
Silicate and direct resin restorations	Exposed pulp treatment	Surgical removal of erupted teeth	Surgical removal of impacted teeth
Topical application of solutions for caries control	Partial dentures		
	Post-surgical treatment		
	Pulpotomy		
	Removal of calculus (a periodontic service)		
	Removal of carious lesions and dressing		

Because of variations in responsibility within the various services themselves, the R factors in this basic classification are not always the same as the R factors in the more detailed description of the relative value units shown in Table 2.

parisons can be made. In the relative value system this basic unit must be a basic dental service which is:

1. Provided by the average practitioner for the average patient;
2. Simple (unaccompanied by complications);
3. Frequently performed; and
4. Limited in variation of technique.

An occlusal amalgam restoration in a bicuspid corresponds most closely to these four criteria and was therefore selected

as the basic service to which we applied the basic relative value unit.

RELATIVE VALUE UNITS

The relative value of any service is determined by the time required for rendering that service, the degree of responsibility involved, laboratory cost, the technique employed, office overhead, cost of materials used, and patient difficulties encountered.

We incorporated only those components which appeared to be significant, objective, measureable and compatible with simplicity. Accordingly, our relative value units are based upon time and responsibility involved in rendering the service. The latter is composed of knowledge, judgement, skill, and clinical and technical risk connected with the service. The charge assessed by a dental laboratory, including the cost of materials used, is subsequently incorporated into the dentist's fee.

We excluded the other components from our relative value units for several reasons. Technique of service was rejected since relative value units are concerned with the service rendered rather than the technique employed. Office overhead was omitted because of the difficulty in applying it to specific services, and because it does not vary sufficiently in a given geographic area to alter the formula of the basic relative value unit. Overhead is primarily related to the final fee where it may subsequently be introduced. We excluded the cost of material used because this is a component of overhead and laboratory expenses which does not significantly affect the formula of the basic relative value unit. And we discarded patient difficulty because this is subject to variable interpretation, because it overlaps with time, and because it cannot be universally applied to the same service.

The relative value unit (RVU) is thus obtained by multiplying the time (T) and responsibility (R) factors. This basic formula is represented by $T \times R = RVU$. The two components of the relative value unit each have a definite value or range and each component can be clearly identified. But the relative value unit is not a fee. An additional factor (F) must be introduced in order to convert relative value units into monetary value. In dental practice these monetary values are affected by office overhead; local economic conditions, such as the standard of living; general economic conditions, such as inflation, deflation, cost of living index; employment of dental auxiliaries; changing patterns of practice, such as increase in the volume of preventive services rendered; individual evaluation of knowl-

edge, skill and quality of service; individual evaluation of the significance of the service rendered; and value of the service to the patient.

For purposes of illustration we assigned an arbitrary value to the conversion factor, but this value may be altered to accommodate variations in individual practices as enumerated above. This permits adjustment of the fee, yet conserves the relationship of the services within a relative value system.

APPLICATION OF THE RELATIVE VALUE UNIT

Application of relative value units for fee determination requires the existence of a comprehensive and accurate list of dental services and the classification of these services according to relative degrees of responsibility. A reference list of dental services was approved for this purpose by the Canadian Dental Association in 1964.⁶ This list embraces diagnostic, preventive and treatment services. Included in the latter are emergency services, surgical services, periodontic services, endodontic services, restorative services (including treatment of dental caries as well as extensive restoration of teeth), prosthetic services, orthodontic services, and some other additional services (anaesthesia, sedation, drug therapy, and so forth).

All services in this reference list were grouped into four categories according to the degree of responsibility involved and a responsibility factor was assigned to each group (Table 1). The factor allotted to group 1 was an integer of one (1). Higher gradations in the responsibility factor were then made in fractional units (1.25, 1.5, 1.75) so that the RVU number would have a minimal progression. This was necessary because the final formula required multiplication of the RVU by a conversion factor.

Average time factors were also assigned to each unit of dental service. For ease of application units of time were used. One hour represented four units of 15 minutes. Multiplication of the pertinent time and responsibility factors for each service yielded a corresponding RVU (Table 2).

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TABLE 2 Detailed description of the relative value units.

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
<u>DIAGNOSTIC SERVICES</u>			
Clinical oral examination			
a. General (for caries, periodontal disease, orthodontic status, etc.)			
For new patient	2	1.25	2.5
For previous patient (maintenance service)	1	1.25	1.25
b. Specific (for any of the above in a specific area)	.5-.75	1.25	.625-.9
Interpretation of radiographs and written report	1	1.5	1.5
Diagnostic models	1	1.0	1 + L
Diagnostic models (mounted)	2	1.0	2 + L
Medication for diagnostic procedures	.25	1.25	.3
Treatment presentation (excepting special extensive treatment)	1-2	1.0	1.2
Consultation			
a. With patient or parent	1-2	1.25	1.25-2.5
b. With members of profession	1-2	1.25	1.25-2.5
c. Referred	1-2	1.25	1.25-2.5
Biopsy			
a. Soft tissue	2	1.5	3.0 + L
b. Hard tissue	2	1.5	3.0 + L
Cytological examination	1	1.0	1.0
Bacterial examination (culture)	1	1.0	1.0
Pulp tests			
a. General (complete)	1	1.0	1.0
b. Specific (local)	.125	1.0	.125
Radiographic examination, including interpretation (No T or R factors are specified in this service. Only the RVU factor is evaluated.)			
Single periapical radiograph			.5
Additional periapical radiographs (up to and including a total of 7 radiographs)			.25

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
Complete series of periapical radiographs, including bite-wing radiographs			4.0
Single bite-wing radiograph			.5
Posterior bite-wing radiographs			1.5
Occlusal radiograph			
a. Mandibular			1.5
b. Maxillary			1.5
Extra-oral radiographs			
a. Right lateral			1.5
b. Left lateral			1.5
c. Posterior-anterior			1.5
Cephalometric radiographs (The RVU range means that the <u>first</u> cephalometric radiograph taken during an appointment has an RVU of 2.25 and each additional radiograph taken during the <u>same</u> appointment has an RVU of 1.25.)			
a. Right lateral			1.25 or 2.25
b. Left lateral			1.25 or 2.25
c. Posterior-anterior			1.25 or 2.25
d. Anterior-posterior			1.25 or 2.25
e. Right oblique			1.25 or 2.25
f. Left oblique			1.25 or 2.25
Temporomandibular joint radiographs			
a. Closed] i.e. two radio-			
b. Open] graphs of each side			6.0

PREVENTIVE SERVICES

Prophylaxis			
a. Scaling (applicable only to a regular maintenance service)			
b. Polishing			
Deciduous dentition	1	1.0	1.0
Mixed dentition	1-2	1.0	1.0-2.0
Permanent dentition	2-3	1.0	2.0-3.0
Topical application of solutions for caries control	1	1.0	1.0
Occlusal adjustment			
a. General (complete dentition)	2-6	1.75	3.5-10.5
b. Specific	1.5-2	1.5	2.25-3.0
Oral hygiene instruction (oral			

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
physiotherapy)			
Brushing, massaging and embrasure cleansing	1	1	1.0
Diet analysis and recom- mendations	1	1.25	1.25
Dental caries suscepti- bility tests	1	1.0	1.0 + L
Finishing restorations (including refinement of marginal ridges and occlusal surfaces	1	1.0	1.0
Interceptive orthodontics			
<u>Habit inhibiting</u>			
a. Appliance therapy for tongue thrusting, thumb sucking, lip biting:			
Removable	3	1.75	5.25 + L
Fixed	5	1.75	8.75 + L
b. Exercise therapy for mouth breathing, ab- normal swallowing, tongue thrusting	1	1.75	1.75
c. Psychological approach	1	1.75	1.75
<u>Space maintaining</u>			
Unilateral or bilateral acrylic removable appliances	3	1.5	4.5 + L
<u>Other preventive orthodontic services</u>			
Cast crown, band, etc.	3	1.75	5.15 + L
Soldered lingual arch	5	1.75	8.75 + L
<u>Space regaining</u>			
a. Intra-oral (unilateral or bilateral (split type)	3	1.75	5.25 + L
b. Extra-oral (head gear)	4-6	1.75	7.0-10.5 + L
<u>Cross-bite treatment</u>			
a. Removable appliance therapy			
Anterior cross-bite, e.g. incline guide plane	4-5	1.75	7.0-8.75 + L
Posterior cross-bite, e.g. incline guide plane	4-5	1.75	7.0-8.75 + L

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
b. Fixed appliance therapy			
Anterior cross-bite, e.g. finger spring type	4-6	1.75	7.0-10.5 + L
Posterior cross-bite, e.g. band elastic type	4-6	1.75	7.0-10.5 + L
<u>Dental arch expansion treatment</u>			
a. Removable appliance therapy	3-4	1.75	5.25-7.0 + L
b. Fixed appliance therapy	5-7	1.75	8.75-12.2 + L
<u>Office visit</u>			
a. Observation - tooth move- ment, position, etc.	.5	1.75	.8
b. Observation and tooth guidance, e.g. tooth reduction	1	1.75	1.75
c. Observation - adjustment, activation, etc. of removable appliance	1	1.75	1.75
d. Observation - adjustment, activation, etc. of fixed appliance			

TREATMENT SERVICES

A. Emergency services (Demanding immediate attention)

Emergency treatment (palliative)			
a. Teeth	1	1.0	1.0
b. Supporting and associated tissue	1	1.0	1.0
Emergency endodontic treatment (including examination and diagnosis)	2	1.25	2.5
Examination and diagnosis of injuries to the teeth and supporting structures (treatment not included)	1	1.25	1.25
Removal of carious lesion and dressing	1.5	1.0	1.5
Emergency treatment			
a. Requiring sutures	1	1.5	1.5
b. Requiring debridement and sutures	1.5	1.5	2.25
c. Requiring sutures, debridement and other surgical procedures	2	1.75	3.5
Postoperative or postsurgical treatment	1	1.25	1.25
Professional visits to bedside			
a. Examination and diagnosis	2	1.25	2.5

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
b. Including palliative treatment	3	1.25	3.75
<u>B. Surgical services</u>			
Surgical removal of erupted teeth			
a. Single tooth	1	1.5	1.5
b. More than one tooth in same quadrant	+.5	1.5	+.75 additional
c. Requiring surgical flap	2	1.75	3.5
Surgical removal of impacted teeth			
a. Soft tissue coverage	2	1.75	3.5
b. Partial bone coverage	3	1.75	5.25
c. Complete coverage	4	1.75	7.00
Surgical removal of residual roots			
a. Soft tissue coverage	1.5-2	1.5	2.25-3.0
b. Bone tissue coverage	2-2.5	1.75	3.5-4.3
Fraenectomy	3	1.75	5.25
Fraenoplasty	4	1.75	7.0
Postsurgical treatment	.5-1	1.25	.6-1.25

C. Periodontic servicesNonsurgical periodontic services

Displacement dressing (packing) per quadrant	1	1.0	1.0
Removal of calculus (scaling) per quadrant			
a. Supragingival	1-1.5	1.0	1.0-1.5
b. Subgingival	1.5-2.5	1.25	1.8-3.1
c. Polishing, including removal of bacterial and mucinous plaques	1	1.0	1.0
Treatment of temporomandibular joint disorder			
a. Diagnostic (specific clinical oral examination)	5-.75	1.25	.6-.9
b. Treatment (refer to required procedure)			
Treatment of periodontal abscess and pericoronitis (possibly surgical service)	1	1.5	1.5
Treatment of acute oral infections			
a. Necrotic gingivitis	1-2	1.5	1.5-3.0
b. Aphthous stomatitis	1-2	1.5	1.5-3.0

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
c. Other acute forms of gingivitis or stomatitis	1-2	1.5	1.5-3.0
Desensitization of tooth surface	.5	1.0	.5
Maintenance care			
a. Re-examination			
b. Re-evaluation of oral status			
c. Provision of maintenance therapy (scaling, occlusal correction, review of oral hygiene, etc.)	2-3	1.25	2.5-3.75
Splinting (provisional)			
a. Removable	1-4	1.5	1.5-6.0 + L
b. Fixed Ligation Prosthesis (Refer to appropriate service)	1-4	1.5	1.5-6.0 + L
Periodontal prosthesis	3-4	1.5	4.5-6.0 + L
Minor tooth movement			
a. Removable appliance	3	1.75	5.25 + L
b. Fixed	5	1.75	8.75 + L
<u>Surgical periodontic services</u>			
Gingival curettage per quadrant	1-4	1.75	1.75-7.0
Gingivoplasty per quadrant	1-4	1.75	1.75-7.0
Gingivectomy per quadrant	1-4	1.75	1.75-7.0
Gingivectomy with osteoplasty per quadrant	4-6	1.75	7.0-10.5
Gingivectomy with curettage per quadrant	2-4	1.75	3.5-7.0
Flap surgery with osteoplasty per quadrant	2-4	1.75	3.5-7.0
Flap surgery with curettage per quadrant	2.4	1.75	3.5-7.0
Mucogingival surgery			
a. Apically repositioned flap per quadrant	4	1.75	7.0
b. Lateral sliding flap per quadrant	2-4	1.75	3.5-7.0
c. Fraenectomy	3	1.75	5.25
Postsurgical treatments	1-2	1.25	1.25-2.5

D. Endodontic services

Exposed pulp treatment	.75	1.25	.9
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<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
Pulpotomy (deciduous tooth)	2	1.25	2.5
Pulpotomy (permanent tooth)	2	1.5	3.0
Emergency endodontic procedures:			
Treatment of traumatized tooth			
a. Not involving the pulp	.5	1.25	.625
b. Involving the pulp	.75	1.25	.9
c. With root fracture	1-4	1.25	1.25-5.0
d. With partial luxation	1-4	1.25	1.25-5.0
<u>General endodontic procedures</u>			
Preparation of tooth for treatment	1-2	1.0	1-2
Endodontic procedures not involving periradicular surgery			
a. Pulpectomy	1-2	1.5	1.5-3.0
b. Biomechanical preparation of root canal			
1 canal	1-2	1.5	1.5-3.0
2 canals	2	1.5	3.0
3 canals	4-6	1.5	6.0-9.0
c. Chemotherapeutic treatment of root canal	2	1.25	2.5
d. Bacteriological test for sterility	1	1.25	1.25
e. Obliteration of root canal			
1 canal (fully developed root)	2	1.5	3.0
1 canal (partially developed root)	3	1.5	4.5
2 canals	2-4	1.5	3.0-6.0
3 canals	4-6	1.75	7.0-10.5
f. Mummification of pulp	1-2	1.25	1.25-2.5
Endodontic procedures involving periradicular surgery			
a. Apical curettage and/or root resection			
1 root	2-3	1.75	3.5-5.25
2 roots	2-3	1.75	3.5-5.25
3 roots	3-4	1.75	5.25-7.0
b. Root end filling			
Amalgam and non-metallic compounds			
1 root	1-2	1.75	1.75-3.5
2 roots	2	1.75	3.5
Silver points			
1 root	2-3	1.75	3.5-5.25
2 roots	3-6	1.75	5.25-10.5

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
<u>Endodontic procedures involving other types of surgery</u>			
Hemisection			
a. Treatment of one root followed by amputation of two roots	8-10	1.75	14.0-17.50
b. Treatment of two roots followed by amputation of one root	8-12	1.75	14.0-21.0
Tooth replantation	2-4	1.75	3.5-7.0
Splinting - see appropriate service			
Post-treatment care			
a. Postsurgical care	1	1.25	2.5
b. Clinical and radiographic examination of treated tooth	1	1.25	1.25
Bleaching of endodontically treated tooth	2-3	1.25	2.5-3.75

E. Restorative services

Consideration was given to reducing the T factor for deciduous teeth. This reduction was not introduced, however, because of the increase in the R and patient difficulty factors in treatment of the deciduous primary dentition.

Treatment of dental caries

Amalgam: deciduous dentition			
1 surface (uncomplicated)	1	1.0	1.0
2 surface (uncomplicated)	1.25	1.25	1.6
3 surface (uncomplicated)	2	1.25	2.5
Amalgam: permanent dentition			
1 surface (uncomplicated)	1	1.0	1.0
2 surface (uncomplicated)	1.5	1.25	1.8
3 surface (uncomplicated)	2.5	1.25	3.1
Reinforced amalgam alloy restorations (pins)	2	1.75	3.5 additional
Silicate cement and direct			

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
resin restorations			
a. Class III and V	1.5	1.0	1.5
b. Class IV	2.0	1.25	2.5
c. Class IV reinforced restorations (pins)	2.5	1.25	3.00 total
Gold inlay restorations			
a. 1 surface	5	1.5	7.5 + L
b. 2 surface	6	1.5	9.0 + L
c. 3 surface	7	1.5	10.5 + L
d. 3 surface modified (additional factors because of occlusion and extra surfaces involved)	7.5	1.75	13.0 + L
e. Inlays with retentive pins	1	1.75	1.75 additional + L
Fused porcelain inlays	5	1.5	7.5 + L
Gold foil restorations			
a. Class I	6	1.25	7.5
b. Class II and III	8	1.5	12.0
c. Class IV	9	1.75	15.75
d. Class V	6	1.5	9.0
<u>Extensive restoration of teeth</u>			
Crowns (uncomplicated)			
Partial veneer crown	7	1.5	10.5 + L
Partial veneer crown with resin or silicate cement veneer	7	1.5	10.5 + L
Partial veneer crown with retentive pins	8	1.75	14.0 + L
Cast crown (gold)	9	1.5	13.4 + L
Cast crown (acrylic veneer)	9	1.5	13.5 + L
Acrylic crown	9	1.5	13.5 + L
Porcelain veneer with metal base	9	1.5	13.5 + L
Complete porcelain crown	10	1.5	15.0 + L
Cast metal post and coping (in addition to crown)	3	1.5	4.5 + L
Stainless steel crown	3	1.0	3.0
Provisional crown (protective dressing)	3	1.0	3.0

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
<u>Fixed bridge restoration</u>			
Attachments (on abutment teeth)		1.75	
Pontics			+ L
General and specific adjustments of occlusion are a separate service			
Splinting (permanent) with soldered attachments		1.75	Same as fixed bridge restorations
Occlusal rests: preparation for insertion of a fixed bridge component into inlays, crowns, etc.	.5	1.0	.5
<u>Additional restorative service</u>			
Removal of inlay	.25	1.0	.25
Removal of crown	.25	1.0	.25
Removal of fixed bridge restoration			
For recementation	1-1.5	1.5	1.5-2.25
To render useless	1-1.5	1.0	1.0-1.5
Recementation of inlay	1	1.0	1.0
Recementation of crown	2	1.0	2.0
Recementation of fixed bridge restoration	2	1.5	3.0
Replacing fractured facing			
a. Backing intact	3	1.25	3.75 + L
b. Acrylic (processed)	3	1.25	3.75 + L

F. Prosthodontic services

Complete maxillary denture	10-13	1.5	15-19.5 + L
Complete mandibular denture (Breakdown of T factors applicable to above)	10-13	1.5	15-19.5 + L
App't 1: impressions	4T		
App't 2: registrations, selection of shade and mould	2T		
App't 3: try-in	2T		
App't 4: insertion	1T		

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
App't 5: occlusal adjustment	2T		
Adjustments	<u>2T</u> 13T		
Complete maxillary and mandibular dentures	18-24	1.5	27-36 + L
Partial maxillary denture with clasp attachments	12	1.25	15.0 + L
Partial mandibular denture with clasp attachments (Breakdown of T factors applicable to above)	12	1.25	15.0 + L
Study models	2T		
Case analysis	1T		
Master impression	3T		
Bite registration, mould selection and shade	2T		
Try-in	1T		
Insertion and occlusal adjustment	2T		
Adjustments	<u>1T</u> 12T		
Partial maxillary denture with precision attachments	12	1.5	18.0 + L
Partial mandibular denture with precision attachments	12	1.5	18.0 + L
Provisional removable partial denture	3	1.25	3.75 + L
Stress breaker		1.5	1.5 + L additional
Denture adjustments 3 months after insertion			
a. Denture base	.5	1.25	.6
b. Denture occlusion	.5	1.25	.6
Denture repairs			
a. Repairing denture fracture (no teeth involved)			
Complete impression required	2	1.25	2.5 + L
Complete impression not required	1	1.25	1.25 + L
b. Repairing denture fracture with fractured teeth			
Complete impression required	2	1.25	2.5 + L
Complete impression not required	1	1.25	1.25 + L

<u>Service</u>	<u>T</u>	<u>R</u>	<u>RVU</u>
c. Replacement of fractured teeth (no impression required)			
1st tooth	1	1.25	1.25 + L
Each additional tooth	1	1.25	1.25 + L
d. Replacement of clasp on denture, clasp intact			
Complete impression required	2	1.25	2.5 + L
e. Replacement of clasp on denture with new clasp			
Complete impression required	2	1.25	2.5 + L
Denture relining (complete or partial denture)			
a. Tissue conditioning	3	1.25	3.75
b. Processed	3	1.25	3.75 + L
c. Self polymerizing	3	1.25	3.75
Denture rebasing (using new denture base material)	3	1.25	3.75 + L

G. Orthodontic services

H. Additional services

Anaesthesia services

Local anaesthesia	.25	1.75	.4
General anaesthesia for conservative dental treatment	*D.T.R.	1.75	
General anaesthesia for oral surgical treatment	*D.T.R.	1.75	
Oral sedation as an adjunct to local anaesthesia	.25-.5	1.5	.3-.75
Intravenous sedation as an adjunct to local anaesthesia	*D.T.R.	1.5	
Inhalation analgesia	*D.T.R.	1.25	

Drug therapy

Prescribed or dispensed	.25	1.5	.3
Administered	.5	1.5	.75

*D.T.R. Depending on time required

At all times the relative value of each service was thereby directly related to the basic unit of service—a simple occlusal amalgam restoration in a bicuspid.

Relative value units can be transposed into fees by multiplying a selected conversion factor (F) with the respective RVU, adding to the product the laboratory fee (L). This formula is represented by $RVU \times F + L = \text{fee}$. By making allowance for variation in the economic conditions of individual practices, employment of dental auxiliaries, office overhead, and other components susceptible to generalized application, this variable conversion factor introduces desired monetary flexibility while conserving the relationship in terms of time, skill and responsibility required to perform the various services. A dentist can devise his own personal fee schedule with the aid of the relative value formula by selecting the time factor and conversion factor that suit his individual need.

Quadrant therapy received particular attention from us. Benefits and responsibilities accrue to the patient and the practitioner in this type of service. The patient benefits because he is subjected to less discomfort, he requires fewer appointments, he saves time, and he often receives a more adequate service resulting from opportunities for rubber dam application and improved contour of the finished restorations. Time factor benefits for the practitioner are experienced in the preparation of the patient, onset of anaesthesia, and through elimination of duplicate steps in cavity preparation, surgery and impressions. All other factors remain relatively constant. On the other hand, the practitioner faces the possibility that the patient may cancel a lengthy appointment for which the dentist may

not be able to retrieve an adequate fee. Moreover, the dentist should justifiably be remunerated for the additional effort, stress and organizational skill necessitated by quadrant therapy. In some practices it may also be necessary to engage additional auxiliary staff. We concluded that, in the aggregate, economic benefits can accrue from quadrant therapy, but each dentist must decide for himself how such benefits are to be passed on to the patient.

SUMMARY

The relative value method of fee determination here described relates dental services to each other in terms of time, skill, and responsibility required to perform the services and establishes a scientific method of determining dental fees. This system is not a fee schedule. It provides relative value units for a wide range of dental services. These units can be adapted to differences and changes which occur in clinical practice. Anyone who wishes to establish fees by this method can convert these units into fees.

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Prevalence and severity of periodontal disease in adults

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Examination (by Russell's Periodontal Index) of 381 Ontario Department of Highways employees revealed that a majority (68 per cent) had gingivitis or incipient periodontitis which could be treated by scaling, polishing and oral hygiene instruction. All subjects, including those with excellent gingival health, required oral hygiene instruction. Though most subjects visited a dentist each year, nearly 80 per cent required moderate to extensive scaling. Twenty-two per cent required more complicated treatment and 7 per cent were considered terminal. The molar areas were the most severely affected. Cytological smears were indicated for 11.5 per cent of the sample. Two of these (4 per cent) were graded as suspicious and possibly malignant.

L'examen de 381 employés du Département des routes de l'Ontario, exécuté grâce au Russell's Periodontal Index, a établi que 68 pour cent de ces employés souffraient de gingivite ou de maladies périodentaires, susceptibles de guérir à la suite d'une prophylaxie et de la mise en vigueur de meilleurs principes d'hygiène buccale. Des conseils relatifs à l'hygiène buccale étaient d'ailleurs susceptibles de profiter à tous les sujets, même à ceux dont les gencives étaient en bonne santé. La plupart des individus examinés voyaient leur dentiste chaque année. Malgré cela, environ 80 pour cent avaient besoin de détartrage assez important. Vingt-deux pour cent avaient besoin d'un traitement majeur et 7 pour cent d'un traitement urgent. Le plus souvent, c'étaient les molaires qui étaient malades. Deux des 47 frottis cytologiques effectués sur 44 patients ont semblé être suspects ou même malins, c'est-à-dire, qu'une proportion de 4 pour cent étaient positifs.

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This survey was designed to study the prevalence and severity of periodontal disease in a sample of the population of Toronto, Canada. By use of the periodontal index advocated by Russell,¹ it was possible to differentiate between gingivitis and periodontitis. Furthermore, the periodontal score increased as the disease became more advanced. Therefore, the findings provide an indication of the responsibilities of the dental profession of the area in relation to the prevention and treatment of periodontal disease.

In addition to the above-mentioned features of the study, information as to the rate of loss of teeth, the number of cytological smears indicated in such a population, and the influence of allergy on periodontal scores were also studied.

Several studies have pointed out the high prevalence rates of gingivitis and/or periodontitis and its progression with age.²⁻¹³ Gingivitis is observed in children and young adults, while periodontitis tends to be more prevalent in adults. It is probable that gingivitis, if left untreated, will progress to periodontitis.^{8, 14-16}

In addition to age, other factors are related to the prevalence of periodontal disease. It has been reported that the male population is more severely affected than the female.^{9, 11} Russell and Ayers¹² have reported that periodontal scores decrease as educational and occupational levels increase, and that persons with untreated cavities show higher periodontal scores than persons whose teeth have been fully restored. The most important factor is oral hygiene. Several studies have pointed out that the severity of periodontal disease can be decreased if oral hygiene is improved.^{2, 12-14, 17-21}

MATERIAL AND METHOD

Sample.—Three hundred and eighty-one employees of the Department of Highways of Ontario volunteered for a periodontal examination. This amounted to 76.2 per cent of those who were asked to participate. A total of 21 edentulous persons took part (15 males and six females). This group, 5.5 per cent of those presenting for examination, was necessarily omit-

ted when the average periodontal scores were calculated.

Examination.—The oral examination consisted of a series of circuits about the mouth. The first circuit was a careful examination of the lips, buccal mucosa, palate, tongue and the floor of the mouth. Direct vision, a mouth mirror and palpation were used to examine these structures. A gauze pad was used to facilitate manipulation of the tongue in order to see and palpate the lateral and ventral surfaces. A cytological smear was made if any abnormality of the oral mucosa was observed.^{22, 23} Missing teeth and dentures were then noted.

Using a mouth mirror and a periodontal probe, the periodontium of each tooth was examined and assigned a score by applying the Russell periodontal index.¹

FINDINGS

Periodontal Scores Related to Age and Sex.—The relation of age and sex to periodontal scores are shown in Table 1 and Figure 1.

Average periodontal scores increased as the age increased, although a slight decrease may be observed at age 50-54 in both sexes.

Sex does not appear to exert an important influence on periodontal scores. At age 17-19 the females exhibited a slightly higher score. After age 20 the males generally had higher periodontal scores. These differences were not statistically significant.

Distribution of Periodontal Scores.—Russell has reported that the progress of periodontal disease can be measured by the periodontal score.^{1, 11, 12} He stated that "most persons with a clinical diagnosis of gingivitis score from 0.1 to 1.0, those with frankly established destructive disease from 1.5 to 5.0, and those with disease in terminal stages from about 4.0 to 8.0, the maximum score."^{11, 12}

Table 2 and Figure 2 portray the frequency distribution of the periodontal scores in our sample.

In this sample no person achieved either the minimum or maximum score.

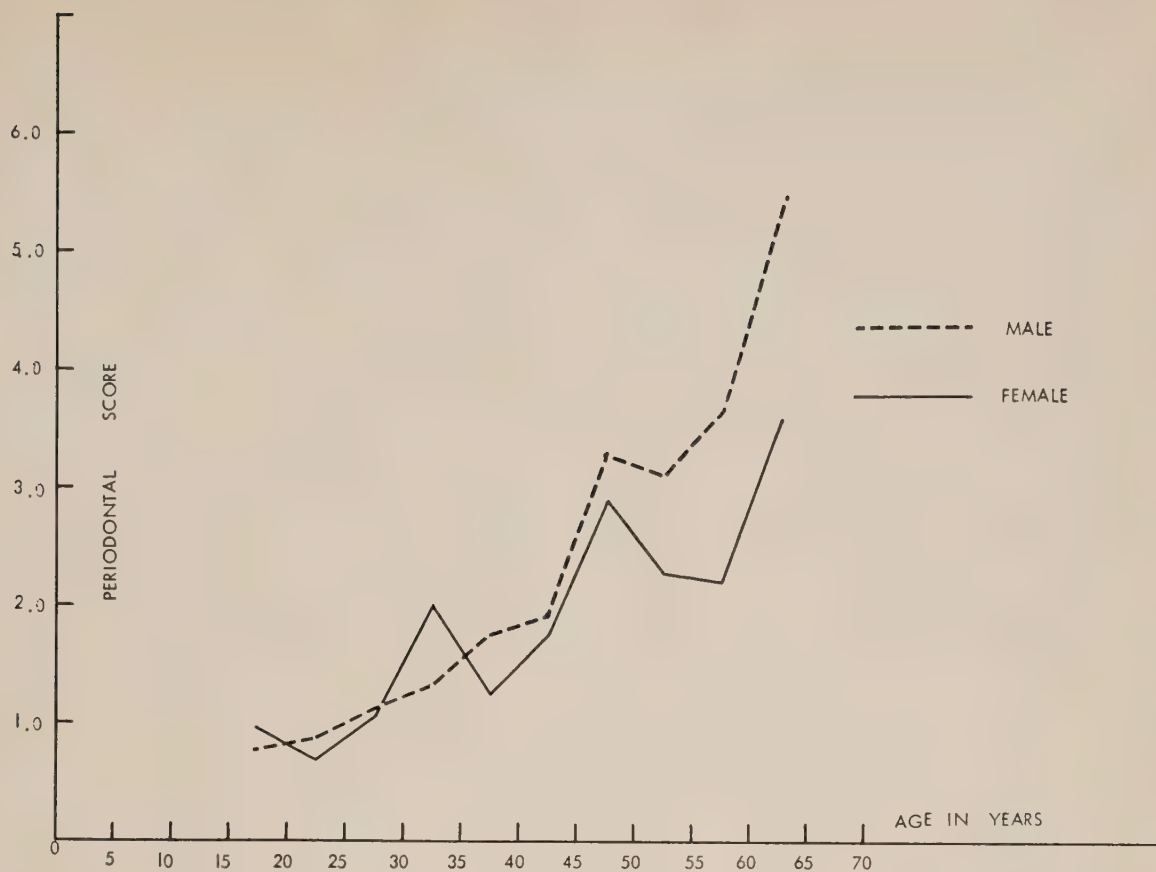


FIGURE 1—Graph showing periodontal scores by age and sex,—235 males and 122 females.

The lowest score was 0.07 and the highest was 7.63. Only two persons had scores of less than 0.1.

Table 2 reveals that 42.5 per cent of the sample scored between 0.10 and 0.99. Gingivitis was therefore the most frequent pathological condition. Those with

scores between 1.00 and 1.99, indicating severe gingivitis to incipient destructive periodontal disease, formed the second largest group, amounting to 25.6 per cent of the sample. As periodontal scores increased, the number of persons in each category progressively declined.

TABLE 1 Periodontal scores by age and sex.

Age	Males			Females			Combined*		
	No.	Mean score	Standard error	No.	Mean score	Standard error	No.	Mean score	Standard error
17-19	5	0.78	±0.10	11	0.97	±0.22	16	0.87	±0.12
20-24	30	0.85	±0.11	24	0.71	±0.08	54	0.78	±0.06
25-29	29	1.12	±0.19	13	1.05	±0.18	42	1.08	±0.13
30-34	40	1.32	±0.17	8	2.04	±0.65	48	1.68	±0.33
35-39	45	1.76	±0.21	11	1.27	±0.31	56	1.52	±0.19
40-44	45	1.92	±0.24	16	1.76	±0.29	61	1.84	±0.19
45-49	9	3.33	±0.80	9	2.92	±0.76	18	3.12	±0.55
50-54	17	3.11	±0.55	15	2.30	±0.41	32	2.71	±0.34
55-59	9	3.65	±0.79	10	2.23	±0.64	19	2.94	±0.51
60-64	6	5.52	±0.64	5	3.61	±0.75	11	4.57	±0.49
65-69	2	2.25	±1.25	1	1.71		3	1.98	
Totals	237			123			360		

*Average of sex averages.

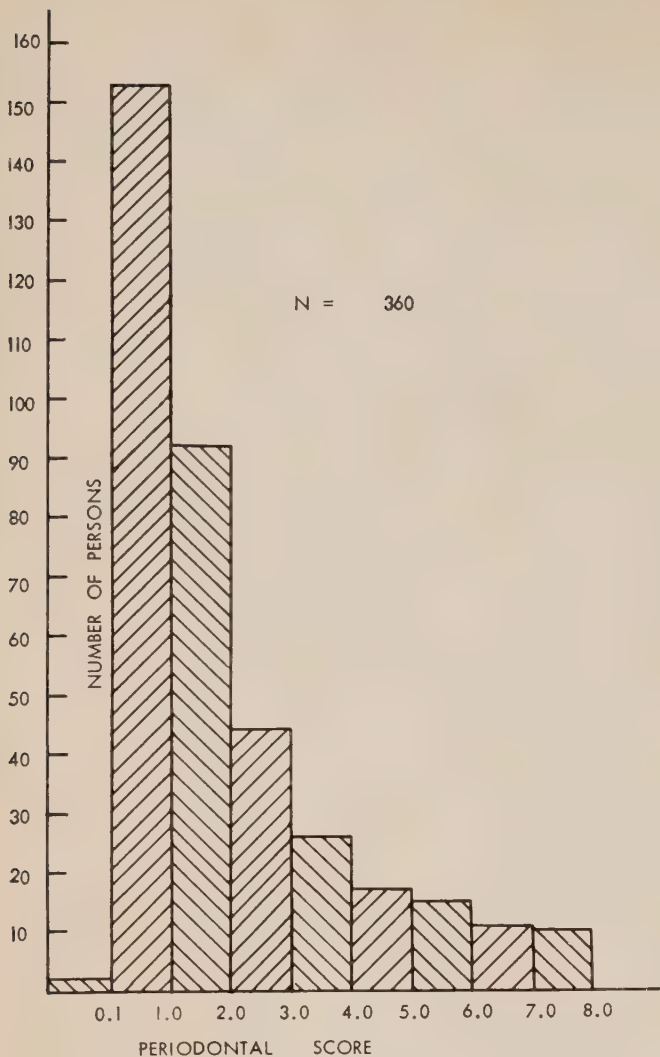


FIGURE 2 Histogram showing frequency distribution of periodontal scores.

Average Periodontal Scores of Individual Teeth.—The average periodontal score for each tooth was determined. There was no significant difference between right and left sides; nor was there any significant difference between males and females. For purposes of this report, the right and left sides have been combined as one tooth and males and females have been combined as one sample.

To minimize the effect on the periodontal score of caries and lost teeth, only those aged 20-49 are included in these calculations. Table 3 and Figure 3 illustrate the findings.

In the maxillary dentition, the central incisor had the lowest score. The lateral incisor had a higher score and the cuspid scored between the central and the lateral. The first and second bicuspid had equal scores, which were similar to the lateral incisor. The molars were markedly more involved than the remainder of the dentition, with the second molar having a slightly higher average score than the first molar.

For the mandibular dentition, the central incisor was more severely affected than the lateral incisor. As for the re-



FIGURE 3 Bar diagram of the average periodontal scores of individual teeth combining right and left sides and sexes. 279 persons, aged 20-49.

TABLE 2 Frequency distribution of periodontal scores.

Periodontal score	Number of persons	Per cent	Cumulative per cent
0 -0.09	2	0.6	0.6
0.10-0.99	153	42.5	43.1
1.00-1.99	92	25.6	68.7
2.00-2.99	44	12.2	80.9
3.00-3.99	26	7.2	88.1
4.00-4.99	17	4.7	92.8
5.00-5.99	15	4.2	97.0
6.00-6.99	6	1.7	98.7
7.00-7.99	5	1.4	100.1
Totals	360		

maining teeth, the more posterior the tooth the higher the periodontal score. The tooth with the highest score in the mandibular arch was the third molar.

Tooth Loss.—To determine the periodontal scores of individual teeth (Table 3), it was necessary to determine the number of teeth in the sample. The data in Table 3 were used to calculate the percentage of the sample that had a particular tooth

missing. The loss rate of each tooth is shown in Table 4.

The figures reveal that the third molars, both maxillary and mandibular, are the teeth which were most often missing. By eliminating the third molars (because we do not know whether they were extracted or had never erupted), it becomes evident that the mandibular first molar was the tooth most commonly missing. The maxillary first molar was the next most frequently missing tooth. With the exception of the first and second molars, the maxillary teeth had higher loss rates than the mandibular dentition. In both arches, especially the mandibular, the cuspids were the least frequently missing teeth.

Periodontal Scores Related to the Frequency of Dental Treatment.—Each person examined was asked to place himself in one of three categories in respect to the frequency of dental treatment. These divisions were: every year or more often; every 2-3 years; and rarely or never.

TABLE 3 Average periodontal scores of individual teeth combining right and left sides and sexes, 279 persons aged 20-49.

Tooth	1	2	3	4	5	6	7	8
Maxillary								
No. of teeth	462	462	489	418	390	375	409	192
Average periodontal score	1.15	1.59	1.33	1.58	1.59	2.34	2.54	2.11
Standard error	0.15	0.15	0.10	0.15	0.18	0.16	0.24	0.25
Mandibular								
No. of teeth	545	549	550	501	446	319	396	210
Average periodontal score	1.27	1.11	1.22	1.27	1.52	1.82	1.88	2.62
Standard error	0.10	0.09	0.07	0.11	0.15	0.21	0.15	0.17

TABLE 4 Percentage of persons missing individual teeth, 279 persons aged 20-49. Right and left sides as well as sexes combined.

Tooth	1	2	3	4	5	6	7	8
Maxillary	17.2	17.2	12.4	25.1	30.1	32.8	26.7	65.5
Mandibular	2.3	1.6	1.4	10.1	20.1	42.8	29.5	62.3

TABLE 5 Average periodontal scores related to frequency of dental treatment.

Frequency	No. of persons	Average periodontal score	Standard error
Every year or more often	208	1.60	0.10
Every 2-3 years	80	1.92	0.20
Rarely or never	72	2.07	0.22

Table 5 gives the average mean periodontal scores for these three groups. The scores increased as the frequency of dental treatment decreased, but no significant difference was found between these groups.

Need of Oral Hygiene Instruction.—Oral hygiene instruction was deemed necessary for every subject except those who were edentulous. Even persons with excellent gingival health had one or more inflamed papillae. These inflamed areas were usually in the posterior part of the mouth.

Need of Scaling.—No index for calculus was utilized, but the examiner estimated the degree of scaling required to cleanse the teeth of deposits. Table 6 shows the number of persons who required scaling and the relative degree of accumulation.

The figures indicate that 79.2 per cent of the persons examined would require moderate to extensive scaling in order to remove the deposits about their teeth.

Allergy and Its Relation to Periodontal Scores.—Each person was questioned concerning a history of allergy. The sample was divided into positive and negative categories. Table 8 gives the average pe-

riodontal scores for these groups. There was no significant difference between these two groups.

Oral Cytology.—All abnormalities of the oral mucosa were scraped for cytological examination, no matter how innocent a lesion appeared.²²⁻³⁰ Forty-seven cytological smears were made for 44 persons or 11.5 per cent of the total sample. Smear diagnoses were reported as being one of five grades:²² Grade 1—negative for malignant cells, Grade 2—atypical benign, Grade 3 — suspicious, possibly malignant, Grade 4—highly suggestive of malignancy, and Grade 5—positive for malignant cells.

Table 7 shows the results.

DISCUSSION

The treatment needs of this sample are portrayed in Table 2. A majority exhibited gingivitis and incipient periodontitis (68.1 per cent). These conditions can be treated by relatively uncomplicated procedures including scaling, polishing and oral hygiene instruction. Approximately 25.0 per cent require more complicated therapy and about 7.0 per cent would be considered terminal.

Oral hygiene instruction is probably the

TABLE 6 Persons requiring scaling.

Degree of scaling required	Number of persons	Per cent
None	9	2.5
Minimal	66	18.3
Moderate	121	33.6
Extensive	164	45.6
Totals	360	100.0

TABLE 7 Oral cytology results.

Grade	Number	Per cent
1	37	78.7
2	8	17.0
3	2	4.3
4	0	0
5	0	0
Total	47	100.0

TABLE 8 Average periodontal scores related to history of allergy.

History	Number of persons	Average periodontal score	Standard error
Allergy	51	1.64	0.22
No allergy	309	1.78	0.09

most effective treatment and preventive measure at our disposal. The examiner felt that all persons taking part in this study would benefit from oral hygiene instruction. Those who obtained very low periodontal scores invariably had one or more papillae between the posterior teeth that appeared inflamed. This finding was accentuated by the individual tooth scores, which showed that the molar regions had the highest periodontal scores. Reduced visibility and accessibility of the molars, due to the regional anatomy, probably do much to hinder effective hygiene in these areas.

Persons who went to a dentist regularly, on the average, did show a non-significant trend toward lower periodontal scores. Although the majority of subjects (57.8 per cent) visited a dentist every year or more often, 79.2 per cent of the total sample required moderate to extensive scaling.

Oral cytology smears were made for 11.5 per cent of the total sample. Sandler et al²⁵ reported that 2.6 per cent of a large sample, consisting of 16,000 veterans, had one or more lesions that were tested by the cytological technique. The number of lesions justifying cytological smears would vary with the individual examiner's index of suspicion and his awareness of the goals of oral cytology. Testing of innocent-appearing lesions should become routine in order to detect cancer of the mouth at the earliest possible stage. The purpose of oral cytology programs can be fulfilled only if a careful and methodical examination of the oral mucosa is made with this goal in mind.

SUMMARY

Examination (by Russell's P.M.A. In-

dex) of 381 Ontario Department of Highways employees revealed that a majority (68 per cent) had gingivitis or incipient periodontitis which could be treated by scaling, polishing and oral hygiene instruction. All subjects, including those with excellent gingival health, required oral hygiene instruction. Though most subjects visited a dentist each year, nearly 80 per cent required moderate to extensive scaling. Twenty-five per cent required more complicated treatment and 7 per cent were considered terminal. The molar areas were the most frequently affected. Cytological smears were indicated for 11.5 per cent of the sample. Two of these (4 per cent) were graded as suspicious and possibly malignant.

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Nous mentionnons ci-dessous, la liste des personnes qui ont gracieusement consenti à reviser des manuscrits et à analyser des livres pour le Journal, au cours de l'année 1965. Au nom de ses auteurs, de ses lecteurs et en son propre nom, le Journal désire leur exprimer sa reconnaissance et les remercier pour leurs généreux conseils.

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Emphysème sous-cutané: complication possible d'une extraction dentaire

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On rapporte un cas d'emphysème sous-cutané et médiastinal qui s'est produit à l'hôpital à la suite de l'extraction de cinq dents sous anesthésie générale au protoxyde d'azote-halothane. Les symptômes sont apparus en moins d'une demi-heure au niveau des muqueuses de la bouche, du cou et du thorax. Six jours après l'opération tout était rentré dans l'ordre. Cet accident est attribuable à la pénétration d'air dans les espaces internes. La guérison est spontanée à moins qu'il y ait complication infectieuse ou embolie gazeuse. Le traitement est généralement conservateur: administration d'oxygène, repos sédatifs, antibiotiques à large spectre en cas d'infection.

Subcutaneous and mediastinal emphysema occurred in a nine year old girl following routine in-hospital extraction of five teeth under nitrous oxide-halothane general anaesthesia. Signs and symptoms involving the oral mucosa, neck and upper thorax as far as the eighth rib, appeared within half an hour of the operation and subsided completely by the sixth postoperative day. The authors attribute this complication to infiltration of air which penetrates between fascial planes and via perivascular tissues. Spontaneous resolution occurs unless infection or gas emboli supervene. Conservative treatment — oxygen, rest, sedatives and broad spectrum antibiotics for infection — is the rule.

L'emphysème est un état morbide provenant d'une introduction d'air sous la peau ou dans les espaces internes. Son incidence est faible et lorsqu'on le décrit, la

plupart des dentistes restent surpris qu'un tel accident puisse leur arriver.

L'importance clinique du phénomène et sa rapidité présentent un aspect déconcertant. Le facies et le cou du patient se gonflent surtout à la partie inférieure. Les tissus mous du thorax supérieur sont infiltrés et la palpation permet de déceler une crépitation neigeuse. L'air suivant les

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facias, peut se loger jusqu'à l'abdomen inférieur et gagner les paupières, donnant un aspect œdémateux au patient.

HISTORIQUE

L'emphysème médiastinal a été décrit la première fois par Laennec en 1819,¹ mais ce n'est qu'en 1870 qu'on rapporte un cas d'emphysème médiastinal qui soit arrivé à la suite d'une extraction dentaire chez un patient qui tenta peu après de jouer du clairon.

Même si on en a décrit plusieurs cas depuis, l'emphysème sous-cutané et médiastinal post-extraction dentaire demeure encore d'une très faible incidence. Ainsi, sur plusieurs milliers de cas d'exodontie faits sous anesthésie générale à l'hôpital Sainte-Justine depuis plus de 35 ans, nous n'en avons rencontré qu'un seul.

Marlette,² Rhymes³ et Kleinman⁴ rapportent chacun un cas identique. Dans sa discussion de l'emphysème publiée dans le *Canadian Anesthetists Society Journal*, Charlebois cite un cas d'emphysème cervico-facial résultant de l'insufflation d'air au moyen d'une seringue dans une plaie gingivale.⁵ Dans le même article, Charlebois discute aussi du danger d'emphysème qui peut résulter de l'emploi chez le dentiste d'une foreuse à haute vitesse actionnée à l'air comprimé.

Il est à noter cependant, que l'on n'a décrit aucun cas d'emphysème sous-cutané et médiastinal qui soit le résultat d'une anesthésie générale.

PATHOGENIE OU MECANISME ETIOLOGIQUE

Dans sa discussion du pneumomédiastin, Cecil⁶ énumère les causes possibles suivantes:

1. Il peut y avoir traumatisme pénétrant d'une bronche principale, de la trachée ou de l'œsophage;
2. Il peut y avoir pénétration d'air à travers le tissu interstitiel du poumon, à la suite de la rupture d'une alvéole, qu'elle soit associée ou non à un pneumothorax;
3. Il peut y avoir diffusion d'un emphysème sous-cutané du cou;
4. Il peut y avoir succion directe à travers une plaie ouverte au cou.

Aesner et Franco citent 16 états pathologiques dans lesquels on peut rencontrer l'emphysème médiastinal, mais ils ne mentionnent pas l'extraction dentaire comme cause possible. Parmi les causes traumatiques, citons: l'amygdalectomie, l'insufflation d'air dans la trompe d'Eustache, l'action d'expectorer, de se moucher, de souffler un ballon, ou un sac de papier, ou un instrument à vent ou encore à la suite de l'emploi d'une foreuse à haute vitesse actionnée par air comprimé.

La littérature médicale ne comporte que très peu de rapports relatifs à l'emphysème sous-cutané ou médiastinal qui soit le résultat d'une extraction dentaire. Chaque fois que l'on en discute le mécanisme étiologique, on semble plutôt opter pour une explication mécanique du phénomène.

Rhymes admet que l'emphysème sous-cutané peut s'expliquer soit par pression positive, soit par pression négative, mais semble plutôt opter pour l'explication première, c'est-à-dire, la pression de routine exercée dans la cavité buccale lors des interventions dentaires.

Charlebois et Marlette croient également que l'emphysème sous-cutané post-exodontie est un phénomène mécanique. En effet, si l'on considère la richesse de l'éventail musculaire et vasculaire de la région du cou, on comprend qu'il suffit d'une porte d'entrée quelconque pour favoriser la pénétration d'air ou de gaz. Sous l'effet d'une pression extérieure, l'air ou le gaz peut diffuser à travers les différents fascias musculaires ou longer les parois des gros vaisseaux pour atteindre le médiastin.

EVOLUTION

A moins que le phénomène de diffusion d'air ou de gaz vers le médiastin ne s'accompagne de la pénétration d'éléments pathogènes, l'évolution de l'emphysème sous-cutané médiastinal est favorable dans la plupart des cas^{7,8} et il y a ordinairement résorption en quelques jours. Dans le cas que nous décrirons plus loin, le pneumomédiastin a disparu dès la troisième journée, et l'emphysème sous-cutané n'était plus évident à l'examen clinique à la cinquième journée.

Cependant, Body⁹ rapporte un cas d'em-

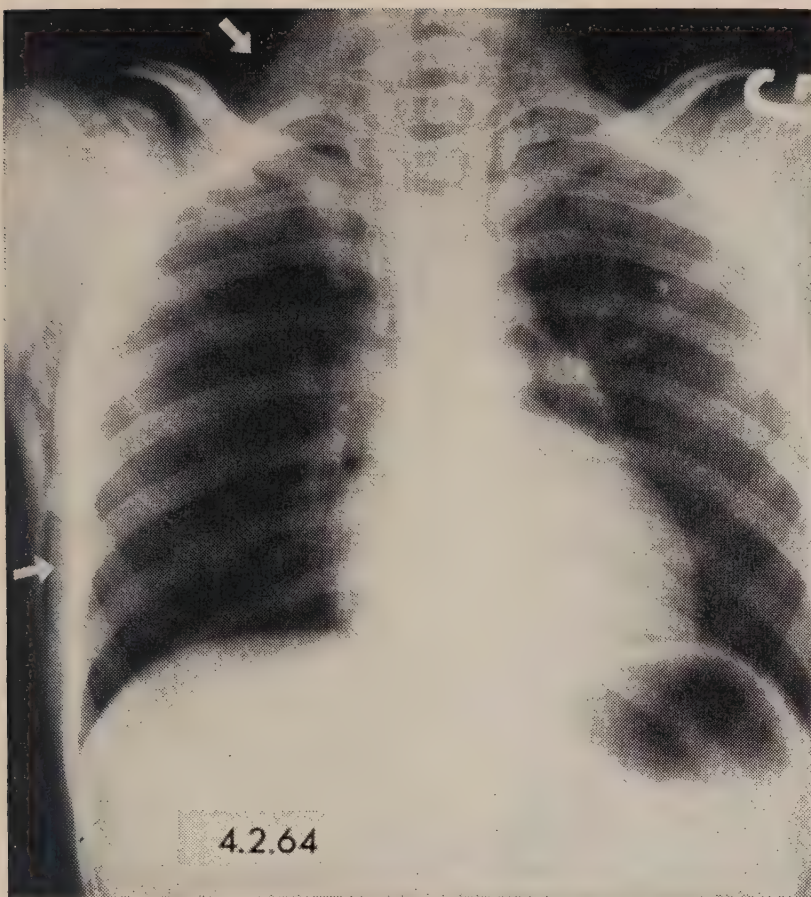


FIGURE 1 Radiographies de face et de profil prises immédiatement après l'accident rapporté. Les flèches montrent l'air dans les tissus sous-cutanés, au niveau de la cage thoracique. L'air repousse les tissus mous du grill costal. (4-2-64)

physème médiastinal chez un homme de 26 ans qui décéda 18 jours après l'extraction dentaire. Ajoutons toutefois que ce patient présentait de l'ostéomyélite et de la cellulite de façon chronique et qu'un abcès maxillaire avait été drainé.

Une autre complication reste aussi possible: l'embolie gazeuse pouvant conduire à une évolution fatale. Le danger de complication sera d'autant plus grand que la quantité de gaz causant l'emphysème sera plus considérable. Cependant, dans les cas où il y a infiltration de certaines régions comme le pharynx, le larynx, l'épiglotte ou les muscles aryénoïdiens, une petite quantité d'air ou de gaz pourra suffire à causer des troubles graves et à nécessiter une intervention immédiate.

TRAITEMENT

Le traitement sera le plus souvent conservateur; l'administration d'oxygène, repos, sédatifs. On emploiera les antibiotiques à large spectre, surtout si la porte

d'entrée causant l'emphysème comporte une zone infectée. Pour parer à toute éventualité, il est prudent de se tenir prêt à faire une trachéotomie d'urgence.

RAPPORT DE CAS

Il s'agit d'un cas inusité d'emphysème sous-cutané et médiastinal qui s'est produit à la suite d'extractions dentaires multiples, chez un enfant de sexe féminin, âgé de neuf ans et pesant 58 livres.

L'enfant a été conduit à la clinique externe d'odontologie où, après examen, il a été convenu de lui extraire cinq dents: une dent temporaire et quatre dents permanentes, toutes en piètre état, soit les deux premières molaires supérieures et les deux premières molaires inférieures.

L'examen pré-opératoire ne révèle rien de pathologique, si ce n'est une mauvaise dentition et un trouble abdominal qui demeure mal défini, même à la suite d'examens répétés.

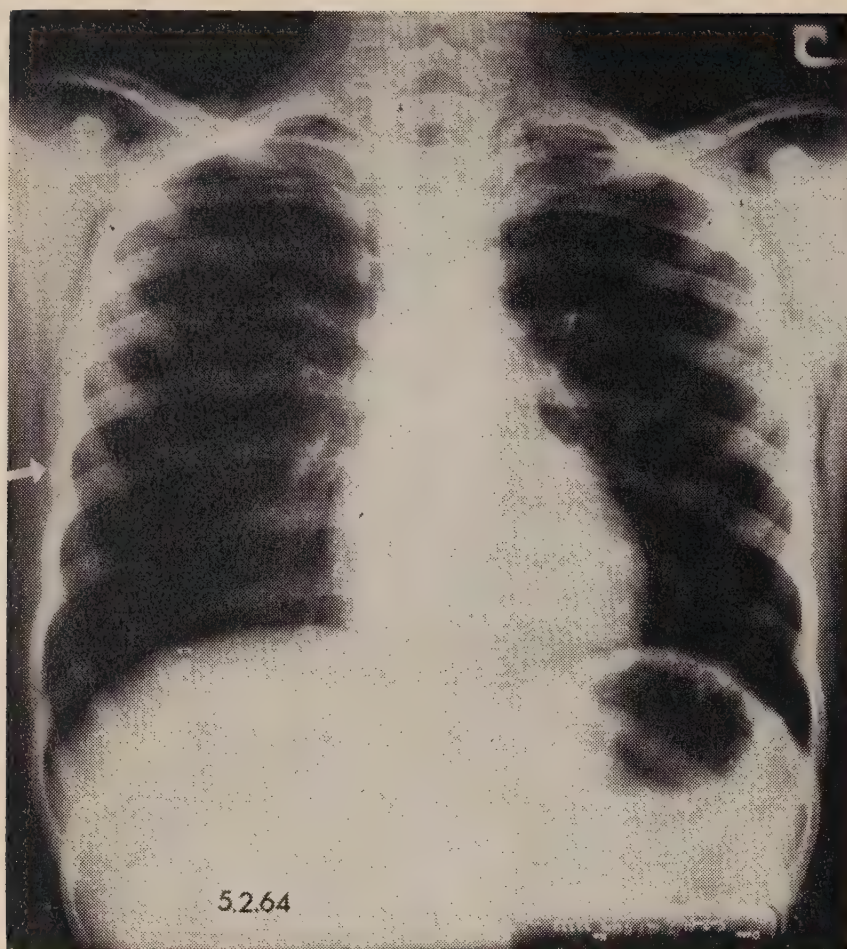


FIGURE 2 On remarque que l'air a diminué de volume et que les tissus reprennent peu à peu leurs positions. (5-2-64)

Rien à signaler au cours de l'induction et du maintien de l'anesthésie. La technique employée est la suivante: le masque est d'abord placé à environ 3 cm de la face pour administrer quelques bouffées de protoxyde d'azote. On ajoute ensuite à doses progressives l'oxygène et le fluothane. Dès que l'anesthésie est complète, le dentiste procède à l'extraction. Le réveil est presque spontané, et l'enfant est dirigé vers la salle de réveil.

Une demi-heure plus tard, on remarque un peu d'œdème qui se forme à la région du menton et du cou. L'enfant est alors dirigé à la clinique externe de médecine et est tout de suite admis dans ce service.

A l'examen clinique, on fait les observations suivantes:

1. La bouche montre des muqueuses œdématisées et quatre cratères gingivaux aux sites des extractions;

2. On note un œdème cervical avec adénopathie et crépitation neigeuse. La joue droite est plus tuméfiée que la gauche;

3. On note la même crépitation au thorax avec extension jusqu'aux épaules;

4. L'examen pulmonaire montre une bonne ventilation. Le murmure vésiculaire est difficile à entendre à cause de la crépitation. Il n'existe cependant pas de râles bronchiques. Le rythme respiratoire est de 24;

5. Le cœur bat à un rythme de 88 à la minute et il n'y a pas de souffle;

6. A la palpation, on note une crépitation neigeuse de la partie antérieure du thorax jusqu'aux 5èmes côtes, et latéralement, jusqu'au niveau des 8èmes côtes.

Le reste de la journée se passe de façon à peu près normale. L'enfant mange et boit, sans toutefois présenter le moindre trouble à la déglutition. Elle passe une nuit normale, à l'exception d'une toux de quelques secondes vers 3h30 du matin. Elle ne présente pas de dyspnée.

On note peu de changement le lendemain.

Le troisième jour, l'œdème de la face a disparu. Quoique moins intense, la crépitation thoracique persiste. L'enfant circule, mange bien, et ne se plaint d'aucun malaise.

Le quatrième jour, on remarque encore

une crépitation thoracique. Celle-ci diminuera de façon très rapide pour disparaître complètement le 6ème jour.

RADIOGRAPHIE

On a procédé à l'examen radiologique de la patiente dès son admission. Il y a eu ensuite contrôle le lendemain et le surlendemain. Les rapports radiologiques se lisent comme suit:

4 février 1964. Radiographies—poumons de face et de profil: Présence d'une assez grande quantité d'emphysème sous-cutané qui intéresse surtout les tissus mous du cou, face antérieure et postérieure et même la région axillaire des deux côtés. Il existe également un pneumomédiastin marqué. Le parenchyme pulmonaire lui-même est d'apparence normale. Les tissus mous du cou sont infiltrés par une assez grande quantité d'air dans toute leur partie antérieure. (Dr Hubert Grégoire)

5 février 1964. Poumons—contrôle: On note très peu de modification dans l'aspect de l'image cardiopulmonaire depuis le

dernier examen. Il persiste toujours un pneumomédiastin avec un important emphysème sous-cutané. (Dr Hubert Grégoire)

6 février 1964: Les plages pulmonaires sont claires. Le pneumomédiastin a presque complètement régressé. L'emphysème sous-cutané est aussi beaucoup moins important que lors des examens précédents. (Dr Gaston Robillard)

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3175 Chemin Ste-Catherine

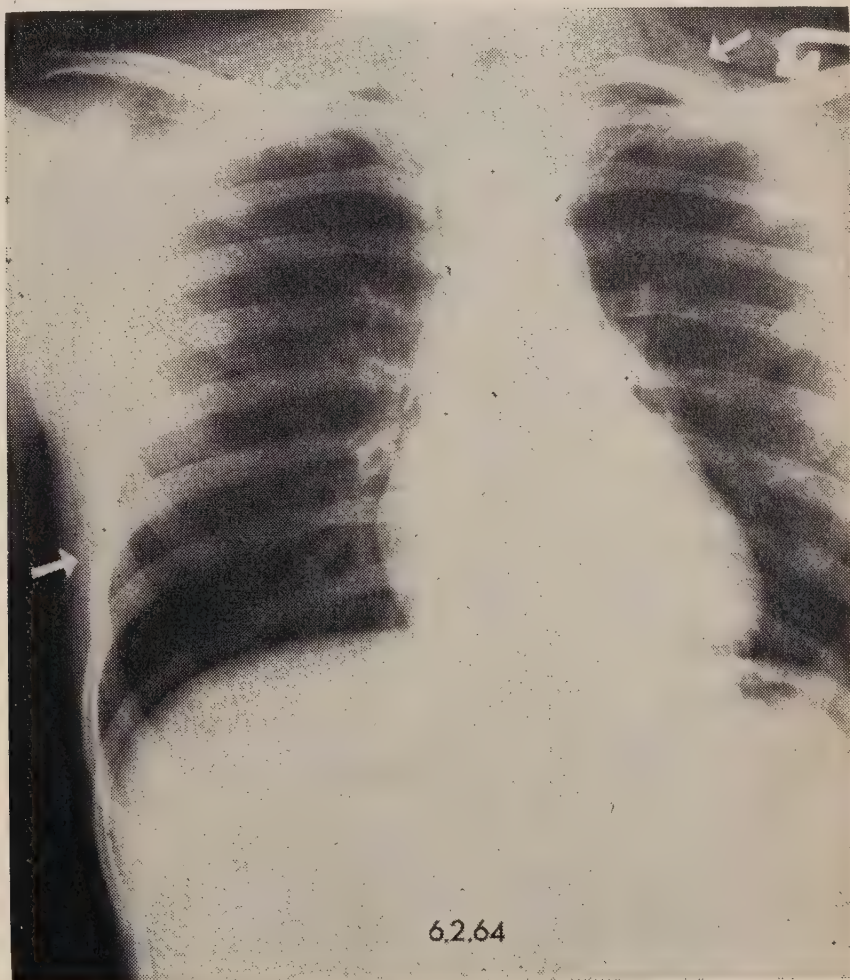


FIGURE 3 La présence d'air est à peine décelable au niveau du thorax. (6-2-64)

Responsibilities and opportunities of the

Increasing demands for orthodontic service are aggravated by the inadequacy of current undergraduate orthodontic instruction. Most dental schools either teach too much clinical orthodontics in too little time, without adequate facilities and personnel, or give no clinical instruction because the curriculum is too highly departmentalized and lacks co-ordination. Orthodontics should receive its share of the undergraduate curriculum and should be strictly controlled by qualified orthodontists. The instruction given should acquaint the student with his limitations as well as his responsibilities and opportunities for service as a general practitioner. Among these responsibilities are maintenance of arch length through proper restorative treatment, space maintenance, supervision of the developing

dentition with the aid of models, radiographs and photographs, caries control during appliance therapy, servicing orthodontic appliances, and occlusal correction following orthodontic treatment. It is neither feasible nor desirable to produce qualified orthodontists from such an undergraduate program. It is also unrealistic to anticipate any significant change in the ratio of newly qualifying orthodontists to new general practitioner graduates — currently about 1 to 10. But more effective undergraduate programs will stimulate a fair proportion of students to pursue graduate orthodontic training. Moreover, all students will be better equipped for whatever aspect of dentistry they undertake as communication between orthodontists and the rest of the profession improves.

The dentist who accepts child patients assumes a very serious responsibility: to maintain oral health and the integrity of the dental arches to the best of his skill and knowledge. This responsibility confers many opportunities to render certain preventive or corrective services which he can and should perform with competence. By the same token he must not

undertake so-called corrective or preventive measures for which he is not adequately trained. Advice from an orthodontist can be helpful in determining the general practitioner's role.

Unfortunately communication between orthodontists and general practitioners is by and large poor. This is mainly due to the great variation in undergraduate orthodontic instruction given at different dental schools.

True, there is general unanimity over required theory courses, at least with respect to the subjects, if not the course

Based on the George Wellington Grieve Memorial Lecture delivered at the national convention of the Canadian Dental Association, Quebec City, May 31, 1965.

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general practitioner in clinical orthodontics

Les orthodontistes ne peuvent pas suffire à la demande sans cesse croissante, et le manque de préparation orthodontique des nouveaux gradués aggrave la situation. Dans la plupart des écoles dentaires, on essaie d'enseigner trop d'orthodontie clinique en trop peu de temps, sans avoir les installations et le personnel nécessaires; ou bien alors, on ne donne aucun enseignement clinique parce que les cloisons interdépartementales sont trop étanches ou qu'on manque de coordination. L'orthodontie devrait recevoir sa part du curriculum sous-gradué et devrait être sous le contrôle strict d'orthodontistes qualifiés. L'enseignement donné devrait familiariser l'étudiant avec ses limitations aussi bien qu'avec ses responsabilités et ses possibilités en tant que praticien général. Parmi ces responsabilités, notons le maintien de la longueur de l'arcade au moyen des traitements restauratifs appropriés, le maintien de l'espace, la surveillance du développement de la dentition, grâce à

des modèles, des radiographies et des photographies, le contrôle de la carie durant le traitement d'orthodontie proprement dit, l'entretien des appareils d'orthodontie et les corrections d'occlusions qui suivent le traitement d'orthodontie. Il n'est ni possible ni souhaitable de préparer des orthodontistes qualifiés à partir d'un tel programme sous-gradué. Il ne serait pas non plus réaliste d'espérer une amélioration importante dans la proportion qui existe entre les nouveaux orthodontistes et les nouveaux praticiens. Cette proportion est actuellement 1 à 10. Cependant, un meilleur programme sous-gradué poussera probablement un plus grand nombre d'étudiants à poursuivre leurs études en orthodontie. A mesure que les communications s'amélioreront entre les orthodontistes et le reste de la profession, les étudiants seront mieux préparés à devenir de meilleurs dentistes, quel que soit l'aspect de la profession à laquelle ils désirent se consacrer.

content. Most schools also include laboratory exercises in impression taking and model construction, wire bending, free-hand soldering, band construction, fabrication of a Hawley appliance and so forth. However necessary these lectures and technical exercises may be, they are not solely for orthodontics in their application; indeed, they are a prerequisite to most, if not all, the major clinical sciences in dentistry.

The sharp difference lies in the degree of teaching clinical orthodontics to undergraduates and in relating this clinical knowledge to other major clinical dental sciences.

In some schools no undergraduate student is assigned patients for the correction of any malocclusion. In others, selected students treat a few patients under the strict observation of an orthodontist on the staff. One dental school apparently

places no restriction on the treatment of malocclusions by undergraduates, but its students do not fully appreciate the significance of the treatment they render.

A teacher directing a clinical study in the paedodontic department of another school thought his undergraduate students should do a 'little orthodontics.' He wanted the students to treat Class II Division 1 malocclusions and undertake serial extractions. He contended that all Class II Division 1 malocclusions are alike, and that serial extractions simply consist of extracting certain teeth in proper sequence and timing. The result of this clinical experiment would have been disastrous for the patients but for the intervention of the department of graduate orthodontics.

All rodents have incisors of continuous growth. If they do not wear down these teeth, they starve because they cannot chew with their molars or they suffer brain damage because the incisors puncture the cranial vault. But there is considerable difference between a rat and a beaver, although both are rodents and both have teeth of continuous growth. Likewise all Class II Division 1 malocclusions are characterized by protruding upper incisors but the similarity may end there. Consequently, a 'little bit' of orthodontic treatment may well be worse than none at all.

The function of a dental school is to educate and prepare clinical dentists for public service. Orthodontics, carefully co-ordinated, must be included in the undergraduate program. The dual purpose of this orthodontic instruction is to teach students what they may do, what they may not do and also why they may not do work in the second category. The intelligent student must be given adequate opportunity to learn his potential and his limitations in clinical orthodontics.

Our experience with a course of this nature for selected undergraduates has proved quite effective. Ten of a class of 100 third year students are accepted annually and placed under the strict guidance of two instructors, both competent orthodontists. Thus, if a student does not quite comprehend a problem, he can discuss it fully with one teacher without

causing any hardship to the remainder of the group. None of these students considers himself a qualified or competent orthodontist because of the additional instruction received. Instead, each has a wholesome regard for orthodontics and far better communication with orthodontists, both to the advantage of the patients.

Orthodontics should be given as much time and facilities as any other major clinical science in a dental school. Because this is rare, instruction is generally inadequate, and relations between dental school administrators, general practitioners and orthodontists are consequently strained.

The prevailing misconception is that orthodontists are isolating their specialty and are unwilling to share their knowledge and experience with general practitioners. This is far from true. Orthodontists are quite willing to share their knowledge. But they disapprove of dentists whose notions of orthodontics are based on misconception or—worse—those who are only really interested in 'simple' tooth movement.

The orthodontist resents dentists who embark on complicated orthodontic treatment without adequate previous training and experience. Their performance too often casts a poor reflection not only upon orthodontics, but upon the entire profession. Even more important is the disservice to the child patient who may have undergone long periods of mistreatment and later, because of age, is psychologically reluctant to undergo further orthodontic treatment.

This situation can be corrected if all dental schools would provide adequate programs in orthodontics, developed and supervised by competent orthodontists. Admittedly, the undergraduate curriculum must be co-ordinated for balanced education of the students. But a curriculum is hardly co-ordinated when, as sometimes happens, operative dentistry and prosthodontics receive four to five times the amount of time allotted to orthodontics.

Moreover, increased undergraduate orthodontic teaching time, facilities and instruction cannot possibly turn students into orthodontic specialists on graduation.

Even the prescribed two full years of graduate training are hardly sufficient for this special field. This limitation must be appreciated if relations between orthodontists and the profession at large are to improve.

The general practitioner sees child patients (1) before orthodontic treatment is undertaken or even considered, (2) during active orthodontic treatment, (3) directly after active treatment is completed and, more importantly, after retention is discontinued. He also sees adults who may or may not have had orthodontic treatment and who present some dental malposition which may be considered an orthodontic problem.

In each category there are responsibilities and opportunities for service for the general practitioner. Here are some examples:

BEFORE ORTHODONTIC TREATMENT

Maintenance of arch length by good restorative treatment and space maintenance reduces the likelihood of mutilated occlusion and minimizes or eliminates the need for orthodontic treatment by about 50 per cent.

Premature loss of mandibular first permanent molars in children almost always contributes to the creation and aggravation of malocclusion, even if the occlusion was normal prior to extraction. Prevention of these deplorable effects is very simple indeed; and not to suggest it at least to the parents is a serious neglect of an opportunity to render a health service of great magnitude.

Dentists who treat children should assemble adequate records, including impressions and models of both dental arches, intra-oral radiographs and profile and full face photographs. Additional data may be obtained from the family physician or paediatrician as required. Such records should be compiled for every child at the very earliest time regardless of the occlusion.

Models, radiographs and photographs are invaluable when making subsequent decisions about preventive or corrective treatment. The impressions should include the entire dentition. The plaster

casts need not be highly polished, merely 'squared off' to appear presentable. Intra-oral radiographs should not be repeated except if required. The photographs also need not be repeated unless there is a good reason to do so. Two ordinary photographs with the head positioned so that the Frankfort horizontal plane is approximately parallel with the floor suffice; the head need not be placed in a cephalostat. Models, radiographs, and photographs require no more than half an hour of the dentist's chair time. They furnish a priceless record of the child's occlusion and facial contour. The radiographs may disclose caries, anodontia or supernumerary teeth. Since he sees the child at regular intervals, the dentist can determine the progress of the entire dentition. If desired development of the dental arches does not occur or if an anomaly develops in the occlusion, the dentist can consult with an orthodontist or suggest to the parents that the child visit an orthodontist. One of several actions may then result: (1) The orthodontist may decide that the child's dentition is progressing adequately and that his services are not required for the time being. (2) The dentist may be asked to perform a corrective or preventive service (for which he has been prepared at dental school). (3) The orthodontist may require more comprehensive records of the child, including cephalographs. He will then assume the responsibility for further observation to determine the growth tendency of the dentofacial complex and the optimum time for orthodontic service. (4) The orthodontist may decide that active orthodontic treatment should begin at once. In any case, the orthodontist receives invaluable information from the dentist who takes the trouble to assemble these data from the moment he begins to treat the child.

From such records the dentist can also observe progressive development of normal occlusion or deviation therefrom, provided he has learned to detect early and subtle deviations. In this connection two developmental criteria deserve further comment. Both are in the maxillary arch and in the mixed dentition.

The first relates to the incisor area. This is Broadbent's so-called 'ugly duck-

ling' stage of development when the central incisors are somewhat spaced, and the lateral incisors are erupting with their crowns rotated distally. Intra-oral radiographs disclose that the unerupted cuspids are proximal to the distal surfaces of the roots of the lateral incisors. When these cuspids erupt, the lateral incisors usually align themselves and the space between the incisors closes. This is a normal developmental process and requires no orthodontic interference.

The second point of interest relates to the molar region. As a rule, the maxillary and mandibular second deciduous molars occlude so that their distal surfaces are in the same vertical plane. Therefore, the maxillary and mandibular first permanent molars occlude in an end-on relation. The triangular ridges of the buccal cusps of the maxillary first molar occlude with the triangular ridges of the buccal cusps of the mandibular first molar. To achieve cusp-to-groove occlusion, the mandibular first permanent molar must migrate forward. Hayes Nance suggests this migration to be in the order of 1.7 mm. The transitional period is a very critical time in the child's developing dentition. If, for example, a maxillary second deciduous molar is prematurely lost or improperly restored, the maxillary first permanent molar can migrate forward one millimeter or more aided by the force of the inclined planes. This very slight movement is sufficient to establish a Class II molar relation. Inevitably, the result is that a bicuspid or cuspid will be blocked out severely. It is therefore extremely important for the dentist to see to it that the maxillary first molars are not permitted to move forward even to the extent of one millimeter. This can only be accomplished by the dentist if he acts at the most expedient time and thus prevents a malocclusion.

DURING ACTIVE ORTHODONTIC TREATMENT

There is a prevalent though totally erroneous belief that the child becomes solely the orthodontist's patient when active orthodontic treatment is initiated. Three aspects of orthodontic treatment directly concern the general practitioner:

education, caries control, and servicing orthodontic appliances.

Education.—The dentist can always learn something about orthodontics and the orthodontist will welcome discussion of progress in treatment with a genuinely interested colleague.

Caries Control. — Caries control during active therapy is a divided responsibility shared by orthodontist, patient, parent, and general practitioner.

Of course, the orthodontist must always check carefully at every appointment for loose bands, and, whenever necessary, he must insist upon observance of adequate oral hygiene and make general nutritional suggestions to his young patients. But the parent, too, is obliged to see to it that the orthodontist's instructions are carried out. During orthodontic treatment the child will see his dentist more frequently because, as a rule, the dentition requires more observation during that period.

Thus, with the combined efforts of all concerned, caries susceptibility need not be increased during active orthodontic treatment. Too frequently there is unfair criticism of orthodontic treatment, which serves only to confuse the patient and destroy his regard for all dentists.

'Servicing' Orthodontic Appliances.—Dentists should learn to 'service' all orthodontic appliances—edgewise, twin-wire, labio-lingual, Begg, 'pure,' Chun-Hoon, and all the other fixed appliances. For example, a child wearing an orthodontic appliance may develop severe pain, possibly accompanied by infection of the cheek, lip or tongue. This may be caused by the displaced tail-end of a single stainless steel ligature which can be tucked very simply into position giving the child complete relief. Lacerations and possible infection of the tongue may result from the lingual occlusal edge of a molar band that has been dislodged lingually from the tooth. The dentist can burnish that lingual surface until it is again smooth. A band may also loosen and become displaced gingivally, causing injury and inflammation to the periodontal ligament and gingival tissue and severe pain for the child. The dentist can

cut a ligature, remove the loose band, and give it to the child or parent, with instructions to return it to the orthodontist as soon as possible. These procedures only require two or three minutes and relief is immediate.

The dentist must not attempt to adjust the appliances; he should confine himself to the relief of pain. If he finds no apparent cause he should not tamper with the appliance even if the child still complains of pain. This type of pain will usually subside in one or two days. Teeth, like people, sometimes are annoyed by being pushed about.

Learning how to 'service' appliances, what to do and what not to do, only requires a few hours' demonstration by a competent orthodontist to a group of interested dentists. More important, this should be taught to dental students.

DURING AND AFTER RETENTION

Only during the past few years has serious consideration been given the physiology and dynamics of occlusion in function, in contrast to static relations.

The concept of functional occlusion accomplished by occlusal adjustment was stimulated largely by the constructive criticism of some periodontists and general practitioners, and is now seriously considered by many orthodontists. But occlusal adjustment is by no means solely the orthodontist's function.

The current question in occlusal adjustment as it relates to the orthodontic patient, is when to start and 'how much.' Some advocate that it begin while appliances are still in the mouth. Others think that complete adjustment should be performed immediately following the removal of appliances and as soon as retention begins.

I believe that occlusal adjustment of children's teeth should extend over a period of approximately two years after active treatment is discontinued. Directly or shortly after removing appliances, the only teeth that may be ground slightly are the maxillary incisors and cuspids, when the mamelons are still present. Then, during observation at intervals of three to six months the orthodontist can

adjust carefully the high spots of the dentition in function. After this period of two years, the general practitioner assumes the major responsibility for any further occlusal adjustment. During the two year period after the termination of active orthodontic treatment, the general practitioner or periodontist should not undertake any adjustment without prior discussion with the orthodontist.

ORTHODONTIC TREATMENT FOR ADULTS

Adult orthodontics is claiming greater attention, not only from orthodontists, but also among periodontists, prosthodontists and general practitioners. Short courses are always popular and reflect a desire for further knowledge. But these lectures must be based on comprehensive knowledge of the many underlying factors. For example, correction of linguoversion of the maxillary incisors may require (1) labial movement of the maxillary incisors, (2) lingual movement of the mandibular incisors, or (3) a combination of both (1) and (2). Further, none of these three procedures may be advisable or even possible if there is a skeletal deformity involving disproportional anterior mandibular growth. This single example emphasizes that each patient must be studied individually, and usually with more data than a set of plaster casts. Short courses of three or four days are therefore meaningless — perhaps even harmful — unless the dentist has been oriented to basic principles of craniofacial skeletal analysis and dentocraniofacial orientation and can correlate these data with detailed analysis of the dentition.

In carefully selected cases orthodontic treatment can be invaluable for grateful adult patients. On the other hand the reverse is true if treatment is undertaken when contra-indicated. Co-operation between orthodontists and general practitioners is essential to determine which patients will benefit from treatment. This knowledge cannot be gained from the successful movement of one or two teeth alone. Over-enthusiastic dentists should therefore refrain from embarking on treatment of adult patients without competent advice.

Inflammation can result from mandibular incisors that occlude in the palatal mucosa lingual to maxillary incisors in patients with severe overbite. This can be improved by complete prosthetic rehabilitation, but most people cannot afford the expense or withstand the arduous and precise operative treatment that is required. Many dentists and periodontists have therefore resorted to a superior Hawley appliance with an anterior bite plane to encourage the posterior teeth to erupt slightly, thereby reducing the excessive anterior overbite. But the upper molars will rarely erupt further as a result of continuous use of the Hawley appliance. And if they do, these same molars will again be quickly depressed unless the appliance is worn constantly and forever.

In actual fact, a dentist can give effective relief for patients who suffer pain and cannot eat because of incisal irritation of the palatal tissue. He can achieve this by a simple orthodontic treatment that does not require tooth movement but actually prevents such movement. This, too, can be accomplished after consultation with the orthodontist and then carried out by the general practitioner.

Many other problems in the adult dentition should concern the general practitioner as well as the orthodontist. Often these problems cannot be resolved by tooth movement. Co-operation between the dentist and the orthodontist would eliminate much useless and harmful treatment. Adult orthodontics would be best served if undergraduate students received a broad education in orthodontics, its relation to other clinical sciences, and the causes and possible prevention of factors disturbing the adult dentition.

SUMMARY

Increasing demands for orthodontic service are aggravated by the inadequacies of current undergraduate orthodontic instruction. Most dental schools either teach too much clinical orthodontics in too little time and without adequate facilities and personnel or give no clinical instruction because their curriculum is too highly departmentalized and lacks co-ordination.

Orthodontics should receive a fair share of the undergraduate curriculum and should be strictly controlled by qualified orthodontists. The instruction given should acquaint the student with his limitations as well as his responsibilities and opportunities for service as a general practitioner. Among these responsibilities are maintenance of arch length through proper restorative treatment, space maintenance, supervision of the developing dentition with the aid of models, radiographs and photographs, caries control during appliance therapy, servicing orthodontic appliances, and occlusal adjustment following orthodontic treatment.

It is neither feasible nor desirable to produce qualified orthodontists from such an undergraduate program. It is also unrealistic to anticipate any significant change in the ratio of newly qualifying orthodontists to new general practitioner graduates—currently about one to 10. But more effective undergraduate programs will stimulate a fair proportion of students to pursue graduate orthodontic training. Moreover, all students will be better equipped for whatever aspect of dentistry they undertake as communication between orthodontists and the rest of the profession improves.

311 Commonwealth Avenue

Federal income tax returns by dentists

For guidance to the dental profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out.

INCOME

There should be maintained by every member of the dental profession an accurate record of income received from his profession (fees) and from other sources (investments, real estate rentals, etc.). The record should be clear and capable of being rapidly checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

EXPENSES

Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

(a) Dental and like supplies.

(b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums:

Amounts of salaries and wages paid should be reported on Form T4, obtain-

able from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income of the payer.)

(c) Telephone expenses incurred in connection with professional practice.

(d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Form T4. (Do not confuse with individual return of income, Form T1, to be filed on or before April 30 in each year.)

(e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. [See (g).]

(f) Postage and stationery.

(g) Proportional expenses of dentists practising from their residences:

1. Owned by the dentist: Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest on mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (m).

2. Rented by the dentist: The rent will be apportioned if paid by the dentist; the owner of the premises

takes care of all other expenses mentioned in (1) above.

(h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practise is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

For 1965 and subsequent years, tuition fees paid to an educational institution in Canada for a postgraduate course are an allowable deduction, but no deduction may be made in respect of travelling or living expenses incurred in connection with the taking of such a course.

(i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from income will be allowed for the interest paid thereon.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income. (The manner of calculating claims for automobile expenses is described in Information Bulletin No. 28 issued by the Taxation Division of the Department of National Revenue and reprinted in part on pages 209-210 of the March 1965 issue of the Journal.)

(1) Social club dues are allowable as deductions from income only when, and to the extent that, they are paid for business purposes, and any dentist claiming them may be required to prove, to the satisfaction of the taxation authorities that the amount claimed was expended wholly and directly for the purpose of increasing his business income. "Social club dues" means annual or monthly membership dues or fees; it does not include an initiation or entrance fee or the cost of a share of a club's capital stock, nor does it include charges for food and drink, living accommodation, fees for the introduction of guests and the like.

(m) Capital Cost Allowance (Depreciation):

The method of computing capital cost allowance for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

A description of the treatment of capital cost allowance may be found on pages two and four of the T1 General Information Sheet.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use, not exceeding the maximum rate (see tables), is applied to this new balance for each class to obtain the capital cost allowance you may claim this year.

The schedule on page four of the T1 General Information Sheet is reproduced at the foot of this page.

The maximum rates for the classes of equipment most used by dentists appear in Table 1.

Instruments costing less than \$100 each

TABLE 1

Assets	Class	Maximum rate
Dental equipment including instruments each costing \$100 or more	8	20%
Instruments costing less than \$100	12	100%
Office furniture and fixtures	8	20%
Frame building (office or residence used both as dwelling and office)	6	10%
Brick building (office or residence used both as dwelling and office)	3	5%

belong in class 12 and have a maximum allowance rate of 100 per cent. They should not be included in expenses but their cost should be recorded as additions in column 3 of the schedule.

Where a dentist practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000 and one-third of the space were used for the office, the dentist would use \$4,000 as the business portion of the cost and apply the building rate of 5 per cent to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. There are no geographical restrictions and the convention, therefore, need not necessarily have been held in Canada. The expenses to be allowed must be reasonable and the taxpayer should show:

- 1. The dates on or between which the convention was held, and the location thereof;
- 2. The number of days he was present at the convention, supported by a certifi-

cate of attendance from the sponsoring organization; and

3. The expenses incurred, segregating (a) Transportation expenses, (b) Meals, and (c) Hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied him to the convention must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

- (a) In the case of an employee receiving a salary who is covered by a registered pension fund or plan (whether or not he contributes to the pension fund) to \$1,500 or 20 per cent of his earned income, minus the amount, if any, he is allowed to deduct from income for his contribution to the pension fund.
- (b) In other cases, to the lesser of \$2,500 or 20 per cent of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1965 and within 60 days after the end of the year. A payment made in January or February 1965 cannot be claimed in

SCHEDULE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Class number	Undepreciated capital cost at beginning of 1965 (Col. 8 of 1964 return)	Cost of additions during 1965	Proceeds from disposals during 1965	Undepreciated capital cost before 1965 allowance (Col. 2 plus 3, less 4)	Rate %	Capital cost allowance for 1965	Undepreciated capital cost at end of 1965 Col. 5 less Col. 7

1965 if it could have been deducted in 1964.

Individuals enquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to February 15, 1966 may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1965. The closing date for applications and contributions applicable to 1965 is February 15, 1966.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1966 to each participant to support claims made for deductions in 1965 income tax returns.

Applications for membership in CDARSP received after February 15, 1966 will entitle participants to tax deferment for 1966.

PAYMENT OF TAX

Individuals whose income is more than 25 per cent derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, March 31, June 30, September 30 and December 31.

DENTISTS UNDER SALARY CONTRACT

The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowance of the expenses. Without trying to recite the exact provisions of the law the main points are:

(a) That the expenses must have been incurred in the performance of the duties of the office for employment.

(b) That the employee is required under the contract of employment to pay the expenses.

(c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

INCOME FROM A PARTNERSHIP

Additional expenses incurred by a partner, but not charged to the partnership, may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn partnership income.

PROVINCIAL TAXES ON INDIVIDUALS

Each of the 10 provinces imposes its own tax on the income earned by an individual in that province. With the exception of the province of Quebec, no separate provincial income tax return need be filed by an individual whose income is subject to provincial tax.

Achieving order out of chaos in specialization

The advent of the Royal College of Dentists of Canada seems to have generated some confusion over the respective roles of the Canadian Dental Association, the provincial licensing boards and the Royal College with regard to specialization in dentistry. There is an impression abroad that the Royal College heralds the demise of the C.D.A. Specialists and Specialization Committee; that henceforth the Royal College will determine what specialties are to be recognized within our profession and who may aspire to the status of a specialist.

In point of fact, the C.D.A. now, as in the past, determines national recognition of dental specialties. It exercises this right through the Specialists and Specialization Committee which, according to the Association's by-laws, is required to study the development of specialization in dentistry, formulate policies in respect to specialization, and develop standards for specialists and specialization in order to protect the public and the profession. To merit national recognition as a specialty, a group must furnish the Specialists and Specialization Committee with proof of a need for such a specialty and must show evidence of national organization within the group itself. These requirements presuppose the existence of knowledge, education and experience exceeding the usual level required of dental practitioners. There must also exist a properly constituted national society representative of those dentists who desire establishment of the new specialty, and it is not unusual for such a society to aspire to the status of a section of the C.D.A. before specialty recognition is actually sought. Upon recommendation of the Specialists and Specialization Committee, the C.D.A. Board of Governors may then accord recognition to a designated specialty when all of the foregoing requirements are met.

The duties of the Royal College of Dentists will complement those of the C.D.A. The Royal College will be a national qualifying and examining authority in the specialties recognized by the C.D.A. To discharge this responsibility the College is being organized into divisions corresponding to the recognized specialties. The College will establish qualifications and give recognition to properly qualified specialists. It will grant fellowships to candidates upon satisfactory completion of prescribed graduate study and successful examination. The requirements for fellowship in the Royal College will meet or exceed the requirements for specialty certification in all provinces so that fellows will merit recognition by all provincial licensing boards. The College thereby hopes to raise the level of specialization in Canada and establish a national standard on which all provincial bodies may rely with confidence.

The provincial licensing boards will retain their traditional role with respect to setting dental practice standards. Within their respective jurisdictions they will continue to determine who may represent himself as a specialist to the public. They will exercise this control by certifying properly qualified specialists.

In due course it is hoped that most specialists will pursue programs of study that eventually lead to fellowship in the Royal College of Dentists of Canada. There may also be other applicants who are working toward similar qualifications from equivalent foreign institutions, such as the American specialty boards.

There is nothing in the foregoing arrangements to prevent a provincial licensing board from certifying any dentist as a specialist even if his training is in a field other than the specialties recognized by the C.D.A. and provided for by the Royal College of Dentists. But it is hoped that the provincial bodies will gradually come to rely on the Royal College as the arbiter of standards of specialization. Only in this way can we avoid a proliferation of so-called specialties and avert repetition of the chaotic state where one province recognized as many as seven different specialties whereas another did not recognize any.

Britain's health crucible bubbles on

An editorial in the June issue¹ recorded the turbulent course of negotiations over the state of the National Health Service that were conducted during the early part of this year by Britain's medical practitioners and Her Majesty's Government. The British Medical Association, it will be recalled, had deferred action at the end of March on a threatened walk-out of 17,200 member physicians from the N.H.S. A three month moratorium (to June 30) had been declared instead to permit further negotiation with the Minister of Health over methods of remuneration, aid in financing practice premises, reimbursement for expenditure on ancillary help, reduction in clerical work, and other important issues.

Little was heard of the subsequent bargaining which apparently proceeded during the early summer months. Shortly before the B.M.A.'s annual meeting in Swansea in July, another special meeting decided to continue negotiations with the ministry and withhold action on mass resignations from the N.H.S.

But in July an entirely new element was introduced when the B.M.A., at its annual meeting, adopted a motion that "payment by the patient of fees for items of service, recoverable from the state, be . . . [an additional] method of remuneration." This, of course, runs directly counter to British government policy of not introducing any financial barrier between patient and physician. Naturally, government reaction was swift. The Minister flatly refused to consider the B.M.A.'s new recommendation.

Meanwhile, 13 Birmingham practitioners, who felt they could no longer await the outcome of negotiations with the ministry, resigned from the N.H.S. The ministry immediately sought replacements and advertised the vacant practices in the *British Medical Journal* which felt obliged to accept the government's advertisements because the 'wildcat' resignations had not been sanctioned by any general resignation decision on the part of the B.M.A.

On August 6 Birmingham's local Medical Practices Committee announced that nine replacement physicians had been secured. But on the same day, a leading newspaper reported a rumour that many, if not all, of the nine were immigrants. Observers now speculate whether Britain's already troubled N.H.S. will be further afflicted by xenophobia.

1. Fire burn and cauldron bubble. *J. Canad. D. A.* 31:392, 1965. Editorial.

Concept du traitement minimum

L'exercice de la profession dentaire présente plusieurs contradictions. La plus importante vient peut-être de ce qu'un bon nombre de praticiens en vue, parmi des plus habiles et des plus qualifiés, tendent actuellement à limiter leur travail et cherchent à ne recevoir qu'un nombre de patients extrêmement restreint, patients auxquels ils consacrent beaucoup de temps de façon à effectuer des

travaux élaborés qui tiennent souvent du miracle. Beaucoup ont tendance à ne recevoir que des patients dont les cas sont complexes, s'abstiennent de tout travail de routine et fuient les cas simples; souvent ils ne traitent que quelques patients par mois.

Pendant ce temps, les dirigeants des associations dentaires et les gouverneurs des collèges provinciaux s'effraient du manque de dentistes, étant à ce sujet en plein accord avec les conclusions du rapport de la Commission royale d'enquête sur les services de santé. Les uns considérant un problème à l'échelle du public, souhaiteraient voir plus de dentistes traiter un plus grand nombre de patients, alors que les autres, se prévalant de leur liberté d'initiative, consacrent tout leur temps à un nombre restreint d'individus, réduisant ainsi le nombre des dentistes qui s'occupent de la population en général.

Il n'est pas question de contester ici l'utilité ou la valeur des spécialités, des travaux dentaires esthétiques, ou des reconstructions élaborées, qui ne font souvent que racheter les années de négligence. Il s'agit plutôt de se demander comment il est possible de concilier de telles pratiques avec l'obligation qu'a chaque dentiste vis-à-vis des problèmes que soulève la nécessité de traiter la totalité de la population.

Pour permettre au dentiste de faire face à la demande, on suggère actuellement de s'efforcer d'obtenir un rendement optimum et une productivité accrue de la part de chaque individu; d'employer un personnel auxiliaire plus nombreux et plus efficace ayant peut-être des responsabilités beaucoup plus larges. Il est aussi question de créer un genre nouveau de personnel auxiliaire chargé du traitement proprement dit d'une fraction de la population.

A tout cela pourrait s'ajouter une idée différente et peut-être nouvelle, que nous choisissons d'appeler 'le concept du traitement dentaire minimum.' Il s'agirait que chaque dentiste qui se trouve en présence d'un patient à traiter se demande quel est le minimum d'interventions dentaires nécessaires pour permettre de conserver chez ce patient donné les standards de santé dentaire les plus élevés qu'il soit possible d'atteindre aujourd'hui. Il ne s'agit pas évidemment de s'abstenir de faire les travaux dont le patient aurait besoin, sous prétexte que ceux-ci sont élaborés ou demandent beaucoup de temps. Il s'agit tout simplement de s'assurer qu'aucune intervention ou reconstruction n'est faite dont on aurait pu se dispenser. Il faudrait s'habituer à mesurer le rendement ou la productivité du dentiste, non pas en fonction de son revenu financier, encore moins en fonction du nombre de rendez-vous quotidiens, mais bien en fonction du nombre de patients traités adéquatement et selon les plus hauts standards d'aujourd'hui.

Il n'est pas toujours facile de déterminer le minimum nécessaire pour assurer le succès complet de notre traitement. On ne peut faire aucun compromis en ce qui concerne la valeur du traitement, si l'on veut que notre patient bénéficie de services dentaires de qualité optimum. Il ne faut pas non plus se laisser influencer par des concepts, des techniques ou des préjugés qui, ayant leur origine dans des cas exceptionnels, sont souvent attrayants à cause de leur difficulté de réalisation, de leur coût élevé et du prestige que peut apporter au praticien l'accomplissement de choses excessivement difficiles, mais qui ne sont malheureusement pas toujours indispensables et peut-être pas non plus aussi durables qu'on voudrait le croire.

Il s'agit pour chacun de développer une attitude d'esprit et un jugement qui, reposant sur une très vaste expérience clinique, soient continuellement et absolument objectifs. Il ne faut pas céder aux pressions de ceux qui voudraient faire du dentiste un travailleur 'en série.' Il faut également se méfier des modes passagères qui voudraient nous faire croire que le traitement le plus compliqué et le plus cher est toujours le meilleur. Il faut se rappeler que notre seule obligation est de répondre aux besoins du patient en favorisant la guérison naturelle.

The Journal devotes this section to comments by readers on topics of current interest to dentistry. The editor reserves the right to edit all communications to fit available space and requires that all letters be signed. Printed communications do not necessarily reflect the opinion or official policy of the Canadian Dental Association. Your participation in this section is invited.

■

Cette partie du Journal est consacrée aux communications des lecteurs sur les questions d'actualité dentaire. La rédaction se réserve le droit d'adapter les communications à l'espace disponible. Toute communication doit être signée. Les communications publiées ne représentent pas forcément l'opinion ou la politique officielle de l'Association dentaire canadienne. Vous êtes invités à participer dans cette section du Journal.

McFarlane Report

To the Editor:

I am curious to learn just what qualifications Dr. B. A. McFarlane of the Sociology Department, Carleton University, Ottawa, has. He is the gentleman described in the news item, "Serious dentist shortage cited," on page 605 of the September Journal.

Frankly, Dr. McFarlane is a 'behind the desk' expert on dentistry. I am becoming nauseated at the continual parrot-like reports on the dental situation in Canada. The only decent comments Dr. McFarlane makes concern legislation to fluoridate water supplies. Otherwise, he knows as much about dentistry as I know about sociology.

The primary target to improve dentistry and dental ailments is public education. We are hindered in this since we haven't the budget that is available to gum, candy, cake and cereal manufacturers. There are enough dentists per population since only about 25 per cent of the people seek adequate care to preserve their teeth. We also need education and certification of auxiliaries such as

dental technicians to make dentures the way optometrists make spectacles.

And please, no more women dentists. I have seen too much of their work from Europe. It is terrible!

Dr. McFarlane should stick with sociology. The C.D.A. and provincial associations should revise their programs for educating the public about prevention.

E. L. Schumacher, D.D.S.,
6725 E. Hastings St., Burnaby 2, B.C.

Correction Re T. L. Marsh

To the Editor:

Dr. T. L. Marsh was appointed July 1, 1965 as research officer, Dental Division, Department of National Health and Welfare—not 'associate director,' as stated on page 685 of the October Journal.

R. A. Connor, D.D.S., D.D.P.H.,
Chief, Dental Health Division,
Department of National Health and Welfare.

This error is attributable to a fault in a report submitted to the Journal. (Ed.)

Effect of Prepaid Children's Dental Care on Permanent Tooth Mortality

To the Editor:

I enjoyed reading your August editorial wherein you reviewed an article by Sperber in which he described a comparison between the philosophies of dental practice in Britain and in America.

In the September *Journal of the American Dental Association* (p. 626) there is an article which describes the effect of a prepaid children's dental care program on the mortality of permanent teeth. A most interesting revelation of this article concerns the fact that the extraction rate of diseased or accidentally injured permanent teeth was lowest in a group practice.

Several years ago some articles on group practice appeared in the C.D.A. Journal. One of these was by Dr. I. H. Katz of this city. These articles were part of a refresher course given at the University of Alberta which was designed to encourage the gen-

eral practitioner to consider the merits of group practice.

I would like to suggest that you consider writing an editorial on the merits of group practice using the article in the September *Journal of the American Dental Association* as a talking point.

C. R. Castaldi, D.D.S., M.S.D.,
Faculty of Dentistry, University of Manitoba,
Winnipeg 3, Man.

Halifax Welcome Awaits Dental Assistants

To the Editor:

The Halifax Dental Nurses and Assistants Association is preparing for next June 12-15 when our association will be the host organization for the 1966 convention of the Canadian Dental Nurses and Assistants Association.

As president of the Halifax association, I would like to extend an invitation to all members of the national association, through the medium of the *Journal*, to come to Halifax and join with us. We anticipate an excellent program and we would like to have every provincial and group association well represented. To grow and develop, we must work together. To be a credit to our profession, we must keep up to date. To accomplish this, we must have the support of all our members.

June is a wonderful month in Nova Scotia. Plan your vacation to see the 'Eastern Seaboard' and make our convention a great success.

Nancy Brown,
6221 Coburg Rd., Halifax, N.S.

Hygienists Meeting in Halifax

To the Editor:

The Canadian Dental Hygienists Association is planning its third annual meeting in Halifax June 12-15 in conjunction with the Canadian Dental Association. At present the program for dental hygienists is scheduled at the Faculty of Dentistry, Dalhousie University. The convention hotel will be announced at a later date. In the meantime, all convention enquiries and arrangements may be made through the national convention chairman, Mrs. Anne Mitchell, 27 Lawnwood Drive, Truro, Nova Scotia.

An exceptional program is being planned

with Dr. John W. Neilson, dean of the Faculty of Dentistry at the University of Manitoba and periodontist, scheduled to speak.

It is our hope that dental hygienists from all over Canada will try to arrange travel and holiday plans around this date in Halifax so as to give all possible support to the young association. Business meetings open to the membership will be held, and a substantial program of table clinics will be presented, provided we have participation from all parts of the country. Contact Mrs. Mitchell if you have a table clinic to contribute to this meeting.

As president, I would like to urge every dental hygienist in Canada to consider attending the 1966 meeting in Halifax so that the profession of dental hygiene and its national association may be more speedily advanced and established. It is only through communication by the printed word and more especially by personal contact that this goal will be achieved. Your attendance at the national meeting is crucial. We look forward to seeing you there.

Dixie C. Scoles, R.D.H.,
School of Dental Hygiene,
University of Manitoba,
Winnipeg 3, Man.

September Journal Earns an Accolade

To the Editor:

When our Editorial Board was reviewing the current dental journals at our last meeting the September issue of the *J. Canad. D.A.* received much favourable comment, so much so that I was directed to write you a note of appreciation and congratulation.

At one time there seemed to be a tendency for the *Journal* to become top-heavy with research articles that had limited readership interest for the profession at large. This objection is no longer valid and on behalf of our Editorial Board I wish to congratulate you upon the well balanced *Journal* you have achieved.

It is my personal opinion that for attractive format, readability and balanced content your September issue is one of the best issues of a dental journal that I have ever seen.

With best wishes for the continued success of your efforts, I am,

J. H. Johnson, D.D.S.,
Chairman, Editorial Board,
Oral Health.

The Association

McLean Represents C.D.A. at Health Resources Meeting

J. D. McLean, Halifax, represented the Canadian Dental Association at the recent Ottawa meeting of the ad hoc technical committee which is to advise federal-provincial health ministers on allocations from the \$500 million Health Resources Fund announced recently by the federal government. The 21 member committee includes representatives of federal and provincial governments, Canadian medical, dental, nurses, and hospital associations, Association of Canadian Medical Colleges, Association des Médecins de Langue Française, and the Medical Research Council.

Following the decision in September to establish the ad hoc committee, the Minister of National Health and Welfare requested the president of the Canadian Dental Association to name a representative. The committee met October 21-22. Opinions of provincial dental organizations, dental schools and others were sought in preparation for the committee's first meeting.

Dr. McLean is dean of the dental faculty at Dalhousie University and chairman of the Canadian Fund for Dental Education.

Canada and the Provinces

Dr. Crawford New Deputy Minister of National Health

G. D. W. Cameron retired on September 13 after serving for 19 years as Canada's Deputy Minister of National Health. Dr.

Cameron held this senior official appointment of Canada's health services for a longer period than any other Canadian civil servant who has occupied a deputy ministerial post.

His successor is J. N. Crawford who was formerly Assistant Deputy Minister of Veterans Affairs. A native of Winnipeg, Dr. Crawford practised as a paediatrician in that city until 1939. He joined the Royal Canadian Army Medical Corps on September 3 of that year and found himself in Hong Kong at the time of the Japanese assault on the British Colony in 1941. Liberated in 1945, Dr. Crawford elected to remain in the Canadian Army where he attained the rank of brigadier in 1953. In 1956 he transferred to the Department of Veterans Affairs where he assumed the post of Director General of Treatment Services and later, in 1963, became Assistant Deputy Minister.

Autonomous Hospital Dental Departments Needed, M.D. Says

A physician has made a renewed bid for the establishment of well equipped, autonomous dental departments in general hospitals.

O. E. A. Stephens, a Scarborough, Ontario, medical practitioner, addressed his remarks to some 20 dentists at the third annual seminar on hospital dentistry at Scarborough General Hospital October 21-22.

Dr. Stephens called for closer interprofessional liaison and said that hospital dental departments could enhance this relationship.

"A good dental department in a hospital should have its own operating and recovery rooms and should be allocated

beds for its specific use," Dr. Stephens declared. He added that dentists should have a voice in determining how long a patient remains in hospital after anaesthesia.

He characterized a hospital dental department as the focal point where physicians and dentists who practise in the community could exchange experience and clinical information.

Dr. Stephens observed that such a department is necessary for the treatment of dental emergencies, to provide dental care for the handicapped, and for major dental surgery. "Moreover, I like to be able to consult a dental surgeon as I would a neurosurgeon when the need arises," Dr. Stephens said, noting that all members of the healing professions contribute equally to the alleviation of sickness, relief of pain and comfort of the patient."

New Course for Victoria Dental Assistants

As of this year, Victoria dental assistants will also be able to participate in a recognized training program conducted on their behalf under the adult education section of their city's school board. The six month course is held Tuesday nights at Oak Bay High School. Incorporated into the curriculum are sessions on radiology as well as several practice periods in local dental offices.

Vancouver dental assistants have been trained for some time at a vocational institute through the adult education division of the Vancouver School Board. The Vancouver curriculum involves 1,100 hours of work and lasts a year.

In both cities the lectures are given by local dentists.

International Items

F.D.I. Meets in Tel Aviv Next Year

Headquarters for international dentistry will be in the Holy Land next year when the Fédération Dentaire Internationale holds its 54th annual session in Tel Aviv July 10-17, 1966.

The scientific program, scheduled for July 11-16, will feature the following topics:

New trends in dentistry—dental education, prosthodontics, responsibilities of organized dentistry toward developing countries, dental research;

Biological considerations in relation to periodontal disease;

Prevention in clinical dentistry; and

Biology of the tooth and its defence reactions.

Titles of four slated panel discussions are: recent advances in the development of dental materials, alternative uses of fluorides other than through water fluoridation, dentistry and the social sciences, and correlation between laboratory testing and clinical appraisal of dental materials.

Other important events are: July 10, General Assembly A; July 11, opening ceremony; and July 17, General Assembly B.

The Tel Aviv Hilton has been designated as headquarters hotel. Enrolment and hotel reservation forms will be included in the January 1966 F.D.I. News Letter.

Canadian Dentists Invited to Join Alpha Omega Tour to F.D.I. Meet in Israel

Herbert Caplan, Montreal, president-elect of the International Alpha Omega Dental Fraternity, has extended an invitation to all Canadian dentists — regardless of whether or not they are Alpha Omegans — to participate in any of the 1966 tours to Israel organized under Alpha Omega auspices.

Special highlights of these tours are participation at the 54th annual session of the Fédération Dentaire Internationale in Tel Aviv July 10-17 and a visit to the Alpha Omega Research and Postgraduate Centre in Jerusalem.

Three tours have been scheduled: Tour No. 1 (Israel and Paris) July 9-21; Tour No. 2 (Israel and Europe) July 9-August 2; Tour No. 3 (Israel and around the world) July 11-August 11. All tours depart from and return to New York City but departure from Montreal can be ar-

ranged provided 40 or more Canadians wish to participate.

Prominent Alpha Omega clinicians will lecture at designated points of each tour. The tours will thereby qualify for income tax deductibility.

For further information write to Herbert Caplan, 1538 Sherbrooke St. West, Montreal, P. Quebec.

A.D.A. Recognizes Third Stannous Fluoride Dentifrice

The American Dental Association has extended recognition to a third dentifrice, Fact toothpaste, as "an effective decay-preventive dentifrice." The A. D. A. Council on Dental Therapeutics has classified Fact toothpaste, manufactured by the Bristol-Myers Company, in group B (products for which there is reasonable evidence of usefulness and safety). The council authorized use of the following statement by the company: "Fact has been shown to be a decay-preventive dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care." Last year, the council reclassified Crest toothpaste, manufactured by Procter and Gamble, into its group A (listed in *Accepted Dental Remedies*) and classified Cue toothpaste, manufactured by Colgate Palmolive, in group B.

In its report on Fact, the council stated that: "The manufacturer has supplied data from a clinical study of two years duration conducted on a group of school children ranging in age from 10 to 19 years, the majority falling within the age range of 11 to 17. . . . Both the one year and two year data indicate a significant reduction in the incidence of dental caries. . . . The one year results indicate a reduction in caries incidence of approximately 13 per cent, and the two year results indicate approximately 25 per cent reduction.

Dental Organizations

Uniform Clinical Examination of Patients Advocated in B.C.

The Public Relations Committee of the

British Columbia Dental Association has expressed concern over a lack of uniformity in the depth of clinical examination of dental patients. Some dentists merely glance at the teeth while others examine the mouth completely and the committee is worried over the effect this may have on patients and the public.

A subcommittee under J. E. G. Harrison, Vancouver, is looking into the feasibility of standardized dental examinations which would comprise radiographic examination, a proper diagnosis, and presentation of treatment plans and an estimate of the cost of treatment.

New Dentists Licensed in B.C.

Forty-one dentists were granted registration by the College of Dental Surgeons of British Columbia during the past summer.

Fifteen holders of National Dental Examining Board certificates and nine successful candidates at provincial licensing examinations were admitted on June 25-26. Twelve further N.D.E.B. certificate holders and five other dentists who passed provincial examinations were admitted on August 19.

Five dental hygienists also successfully passed provincial written and clinical examinations.

Saskatchewan Cytodetection Committee Optimistic

Saskatchewan's Committee for the Oral Cytological Smear Program met in Saskatoon September 28 when C. H. M. Williams of Toronto visited Saskatchewan and other western provinces on behalf of the Canadian Dental Association and in support of the oral cytology smear technique for early detection of cancer.

Also present at the meeting was A. B. Brown, professor of gynaecology and obstetrics, College of Medicine of the University of Saskatchewan, and chairman of the Exfoliative Cytology Committee of the Saskatchewan College of Physicians and Surgeons.

Following this meeting committee members expressed optimism that the oral cytodetection technique and facilities

will soon be made available to the dentists of Saskatchewan.

Western Dental Officials Meet in Winnipeg

Presidents, vice-presidents and secretaries of dental organizations from the four western provinces held their annual meeting in Winnipeg September 11 and 12.

Listed on the agenda were the following items: interim report of the Manitoba Legislative Committee on Dental Mechanics; denture clinics in British Columbia and Manitoba; new dental school for Saskatchewan; Hall Royal Commission Report; and licensure for foreign dentists.

Next year's meeting will be held in Edmonton.

Northern Assn. Formed in Manitoba

Winnipeg dentists J. E. Ryan, Z. Kasloff, W. H. Feasby, C. H. McCormick and W. G. Campbell assisted at the inaugural meeting of the new Northern Manitoba Dental Association in Dauphin October 25. Doctors Kasloff, Feasby and Ryan participated in the scientific program.

Manitoba Paedodontic Group Meets

Dentistry for children recently held the limelight when two Winnipeg physicians and two Winnipeg dentists addressed an all day meeting of the Manitoba Chapter, Canadian Society of Dentistry for Children. The meeting was held in Winnipeg October 16.

Wallace Grant and K. N. McRae discussed child behaviour, normal behavioural changes associated with growth and deviation from normal behavioural patterns. Both speakers are on the staff of the University of Manitoba's Faculty of Medicine. They also direct the Child Development Clinic at Winnipeg's Children's Hospital.

C. R. Castaldi, professor of operative dentistry at the University of Manitoba, and C. H. McCormick, provincial dental director, led a panel discussion on the

proposals of the Hall Royal Commission on Health Services concerning dental auxiliaries.

Manitoba Mouth Protector Program

E. G. Derrett, Winnipeg, has again directed the Manitoba Dental Association's mouth protector program for Winnipeg's high school athletes. This year's program affected all players on nine Winnipeg teams. The city school board provided materials while professional services were organized and provided through the dental association.

Apart from its preventive value, the program is expected to yield valuable recruitment benefits, officials point out.

Jankelson Gives Winnipeg Alpha Omega Lecture

On September 18 some 125 Winnipeg practitioners and dental students heard Seattle prosthodontist Bernard Jankelson deliver the first Alpha Omega Memorial Lecture ever given in the Manitoba capital. Titled "Management of Occlusion," the lecture was arranged by the Manitoba Chapter of Alpha Omega Fraternity in conjunction with the University of Manitoba's Faculty of Dentistry.

Dr. McIntosh Addresses Toronto Academy, Calls for Professional Unity

C.D.A. Secretary W. G. McIntosh has issued a stirring call for unity within a profession that faces renewed pressures on the medicare front.

Addressing the annual dinner meeting of the Toronto Academy of Dentistry October 28, Dr. McIntosh warned his audience not to dismiss the Hall Report as past history. "This would be a tragic error and a dangerous illusion," he declared.

Dr. McIntosh said that political pressure for national schemes of medical and dental care had not diminished and cited the following recent examples:

Receipt by the Prime Minister of 16,000 letters and individual representations in

support of universal comprehensive medicare;

A suggestion from the Saskatchewan government that it may use its share of a projected \$14 per capita federal medicare grant in order to start a provincial dental care scheme; and

An Ottawa conference November 28-December 1 where representatives of 13 million citizens discussed how to implement the Hall Commission's 'Health Charter for Canadians.'

Dr. McIntosh proposed that "we use the current respite to present our convictions to the public and politicians—views which we sincerely believe."

He added that the profession had recently gained two important new channels for communicating its opinions to policy-making levels of the federal government. These are the Advisory Dental Health Committee which will "assist and advise the Minister of National Health and Welfare," and the Research Subcommittee on Dentistry which reports to the Public Health Research Advisory Committee of the Dominion Council of Health.

But, while C.D.A. representation at the federal level is necessary and valuable, Dr. McIntosh declared that it is equally important for provincial and local organizations to make their views known at their respective levels.

Niagara Dentists Endorse C.D.A. Stand on Hall Report

C.D.A. Secretary W. G. McIntosh outlined the Canadian Dental Association's criticisms of the Report of the Hall Royal Commission on Health Services when he addressed 58 members of the Niagara Peninsula Dental Association at St. Catharines on October 1.

Also present were M. G. Boyes, president of the Ontario Dental Association; K. F. Pownall, registrar-secretary of the Royal College of Dental Surgeons of Ontario; and E. J. Rajczak, R.C.D.S. board member for District 8.

National Health and Welfare Minister Judy LaMarsh and two other federal members of Parliament as well as three members of the Ontario Legislature were

unable to attend due to federal election commitments.

Dr. McIntosh emphasized these shortcomings of the Hall report:

Too much emphasis on treatment and not enough on prevention;

Services now provided by dentists which will be compensated only if rendered by physicians and surgeons;

Inadequacy of the scope of treatment envisaged under the proposed children's program;

Incorrect estimates of the time required for performance of specified services; and

Overestimation of the productivity of the proposed new auxiliaries.

Dr. McIntosh also deplored the proposal that children be treated only in government-sponsored clinics. He said that more study is required to determine the actual cost of the projected program. At the conclusion of his remarks the Niagara Association unanimously endorsed the C.D.A. statement on the Hall Report adopted by the Board of Governors in Quebec City earlier this year.

In other actions, the Niagara Association:

Asked the Ontario Dental Association to issue a press release about the new O.D.A. fee schedule; and

Considered the second proposed draft constitution for the Ontario Dental Association.

Eastern Ontario Association Donates to Dental Education

A donation of \$500 was made to the Canadian Fund for Dental Education by the Eastern Ontario Dental Association, it was announced when that organization held its annual meeting recently.

K. L. Hargadon of Ottawa is the new president of the E.O.D.A. He succeeds A. C. Murchison of Ottawa. Elected with Dr. Hargadon were J. D. Lamping, Pembroke, vice-president, and W. C. Gallagher, Ottawa, secretary-treasurer.

The advisory board consists of F. M. Bliss, Brockville; J. H. C. Gowland, Kingston; and F. C. Buschlen, D. L. Bigelow, A. Vachon, R. J. Braden and R. K. Armstrong, all of Ottawa.



Pictured at a recent meeting of the Halifax County Dental Society are (l. to r.) E. S. Morrison, president, H.C.D.S.; D. G. Pentz, president, Nova Scotia Dental Association; C.D.A. President P. S. Christie and C.D.A. Secretary W. G. McIntosh.

Ontario Women Dentists Active

All women dentists in Ontario have been reminded that they are eligible for membership in the Women Dentists Association of Ontario. The annual fee is \$6.

The principal undertaking of this organization is operation of the dental clinic at the Women's College Hospital in Toronto. All service rendered is on a voluntary basis.

Several events are held each year in an attempt to integrate undergraduates and graduates into the group.

President of the association for 1965 is Christena Chruszez and the treasurer is Y. Yoneyama.

Presidential Visit to Halifax

Dalhousie University senior dental students were special guests of the Halifax County Dental Society at a reception October 18. The dinner meeting marked the annual C.D.A. presidential visit to Nova Scotia.

C.D.A. President P. S. Christie and Secretary W. G. McIntosh addressed the gathering and participated in a lively question and answer period.

Atlantic Society of Dentistry for Children Formed

Fourteen Nova Scotia dentists from Halifax, Dartmouth, Bridgewater, and Truro have organized a new chapter of the Canadian Society of Dentistry for Children. At an organizational meeting in Halifax October 8, they formed the Atlantic Society of Dentistry for Children and extended an invitation to all dentists in

the Atlantic region to become affiliated with the new group.

Named as a temporary executive were T. A. W. Taylor, president; T. D. Ingham, secretary-treasurer; and D. C. T. MacIntosh, executive officer. All are from Halifax.

The membership fee was set at \$20 of which \$9 will be remitted to the parent association.

To Study Organization of Dentistry in N.S.

The Executive Committee of the Nova Scotia Dental Association has established a special committee to examine the structure of the provincial association.

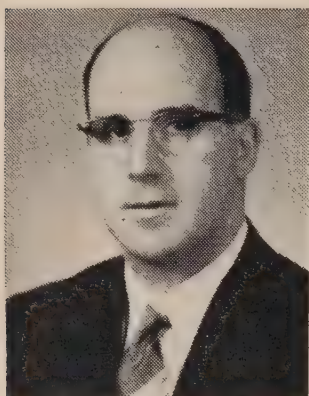
The committee — composed of H. P. MacCormack, Truro, chairman; J. R. Fraser, Chester; T. L. Rogers, Shelburne; J. F. Burke, Sydney; and R.A.I. Epstein, Halifax—has been instructed to bring its recommendations to the N.S.D.A. executive by May 1, 1966.

Nova Scotia Assn. Meeting Deferred

Because of the Canadian Dental Association's National Convention in Halifax June 12-15, the Executive Committee of the Nova Scotia Dental Association has deferred the annual N.S.D.A. meeting to next September 17.

New Brunswick Society Endorses Fluoridation

The New Brunswick Dental Society again endorsed fluoridation of communal water supplies as a preventive measure in reducing tooth decay, when that association



W. B. O'Brien

held its annual meeting in Edmundston September 25.

The society also:

Went on record as supporting a medical school in New Brunswick and expressed the wish that in time a dental school would be included in the province's educational program;

Contributed \$250 to the Canadian Fund for Dental Education;

Requested adjustment of salaries of dentists employed by the provincial government to approximate the salaries of dentists employed by the federal government; and

Endorsed the continuance of the F. A. Godsoe prize of \$100 at the Faculty of Dentistry, Dalhousie University.

W. B. O'Brien of Fredericton was elected president. Other officers elected with

Dr. O'Brien are Dismas Boudreau of Edmundston, vice-president, and M. J. Crip-ton of Moncton, secretary-registrar.

Area Council members are D. E. Williams of Moncton, B. A. Cyr of Edmundston, J. J. E. Allain of Bathurst, L. G. Zed of Saint John, and D. C. Hatheway of Nashwaaksis.

J. F. Edgecombe, Saint John, continues as representative to the C.D.A. Board of Governors. R. B. DeWare, Moncton, is the delegate to the National Dental Examining Board of Canada.

Canadian Dental Schools

First Class at U.W.O. in 1966

The first dental students at the University of Western Ontario will begin their course in September 1966. This decision was reached when the Council of the Faculty of Dentistry held its first official meeting September 27. Classes for a pilot group of eight dental students will begin in the medical sciences building and, if necessary, in temporary quarters.

Specifications and preliminary plans for the university's projected \$5 million dental sciences building have been approved. The building will take about 18 months to build, beginning in March 1966.



Pictured at the first meeting of the University of Western Ontario's dental faculty council September 27 are (l. to r.) C. W. Gowdey, head of the Department of Pharmacology; R. G. Murray, head of the Department of Bacteriology; O. H. Warwick, vice-president (Health Sciences); A. C. Wallace, Department of Pathology; Marilyn Hill, faculty secretary; W. J. Dunn, dean of the Faculty of Dentistry; J. A. F. Stevenson, head of the Department of Physiology; H. B. Stewart, head of the Department of Biochemistry; Douglas Docking, dean-elect of the Faculty of Medicine; M. L. Barr, head of the Department of Anatomy; and G. E. Hall, U.W.O. president.

It is to be part of a health sciences centre which will include also the medical sciences building, a school of nursing building, a cancer research laboratory, and a proposed university hospital.

Admission requirements to Western's dental school include two years in the university's general science program or equivalent.

Departmental Reorganization at Montreal Faculty

The Faculty of Dental Surgery of the Université de Montréal has been reorganized into six new teaching departments, it has been announced. The departments and the respective department heads are: oral biology, Zdenek Mézl; orthodontics, Claude Baril; preventive dentistry, Dean J.-P. Lussier; prosthodontics, Jean Nadeau; restorative dentistry, Hervé Deschênes; and stomatology, Gérard de Montigny.

The Department of Oral Biology will be responsible for teaching basic sciences and preclinical disciplines. This department is also in charge of basic research projects.

The Department of Preventive Dentistry will give instruction in preventive dentistry and will integrate this subject with all aspects of dental practice. The department administers programs in paedodontics, dental public health, social dentistry, and all courses on professional ethics and practice administration.

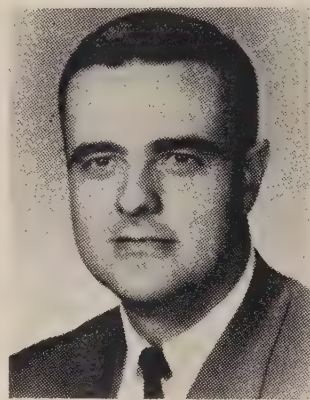
Oral medicine, oral surgery, anaesthesiology, oral diagnosis, endodontics, periodontics and radiology come under the Department of Stomatology.

Restorative dentistry, orthodontic and prosthodontic departments will continue to give preclinical and clinical instruction in their respective disciplines at undergraduate and postgraduate levels.

Kenrick Joins McGill Faculty

J. C. Kenrick, Montreal, has been appointed to the full-time teaching staff of the Department of Periodontics at McGill University. He received his D.D.S. degree from McGill University in 1958.

Thereafter, Dr. Kenrick practised in Rochester, New York until 1963. Dr. Kenrick has undertaken graduate training in periodontics at Columbia University, New York, during the past two years.



J. C. Kenrick

Dr. Jacobs Heads U.B.C. Orthodontic Department

Dean S. Wah Leung has announced the appointment of R. M. Jacobs as assistant professor and head of the Department of Orthodontics at the University of British Columbia.

Dr. Jacobs earned a Dr. Med. Dent. degree from the Maximilian University in Munich. He also holds a D.D.S. from New York University, a Master of Public Health degree from the University of California, a Ph.D. in anatomy and genetics from the Medical College of Virginia, and a Master of Science degree (orthodontics) from the University of Illinois.

Dr. Jacobs' appointment became effective on July 1.

Psychiatry in Dentistry Course at Alberta

For the first time in Canada, Alberta's Faculty of Dentistry introduced last year a course on psychiatry in dentistry. The course is being offered again this year under the direction of K. A. Yonge, head of the Department of Psychiatry. The course, which is given to second year students in dentistry, is an introductory course which examines the psychological and personality factors of concern in dentistry as they relate to pain, anxiety, gagging, and so forth. Although psychiat-

ric teaching in dentistry is not new, Dr. Yonge points out that this is the first time a conscious effort has been made in a Canadian dental school to teach psychophysiology as it relates to the mouth.

Dean H. R. MacLean of the Faculty of Dentistry, University of Alberta, has stressed the need for dental schools to attach more importance to the social and psychological aspects of dentistry. According to Dr. MacLean there is a need for the dentist to comprehend the many personality factors of a patient which can lead to poor dental health and consequent fear of the dentist.

Joan Conklin Joins Alberta Staff

Joan Conklin, a graduate of Columbia University, has joined the staff of the School of Dental Hygiene at the University of Alberta. Miss Conklin is the first dental hygienist with an M.Sc. degree in dental hygiene to be appointed to a Canadian university staff.

Miss Conklin is director of the Dental Hygiene Clinic and will take on some clinical teaching responsibilities in the new year. As director of the clinic she will supervise the students in performing prophylaxes, applying stannous fluoride, recording the medical and dental histories of patients, and gaining experience in sterilization and patient education.

Dental Hygiene Teacher Shortage in Canada

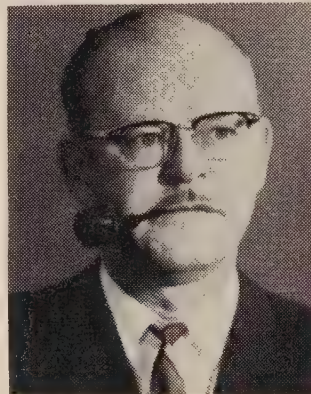
According to Margaret Berry, director of the School of Dental Hygiene at the University of Alberta, Canada may have to continue to draw on dental hygiene graduates from the United States due to a lack of degree programs to train personnel for dental hygiene teaching appointments in Canada. The two year diploma program is the only one available at all four dental hygiene schools in Canada at Dalhousie University, the University of Toronto, the University of Manitoba and the University of Alberta.

Miss Berry, who is a graduate of Columbia University, has expressed concern

about the growing demand for highly trained personnel in Canada in the field of dental hygiene and the need to develop degree programs here.

Dr. Zacherl Leaves Alberta U.

Walter Zacherl recently moved to Ohio State University, Columbus, Ohio, where he took a position as associate professor of research in the Faculty of Dentistry in July. He is a former research associate of Alberta University's Faculty of Dentistry.



Walter Zacherl

A 1951 graduate of the University of Alberta, Dr. Zacherl left private practice to undertake graduate studies at the School of Hygiene, University of Toronto, where he received a Diploma in Dental Public Health in 1958. During World War II Dr. Zacherl served as a navigator with the Royal Canadian Air Force for five years.

Castaldi and Zebrowski Join Manitoba Faculty

C. R. Castaldi, formerly of the University of Alberta, has joined the University of Manitoba's dental faculty as professor (operative dentistry) in the Department of Restorative Dentistry.

E. J. Zebrowski has taken up an appointment in the Biochemistry Section of the faculty's Division of Oral Biology. Dr. Zebrowski obtained his M.Sc. in biochemistry at the University of Manitoba, and recently received a Ph.D. in biochem-

istry from the University of Wisconsin. He is now investigating enzyme control mechanisms in mammalian tissues.

Manitoba U. Enrolment Up

One hundred and fifty dental students, dental hygiene students and students in graduate courses are registered in the Faculty of Dentistry, University of Manitoba, during session 1965-66. Last year's enrolment was 147.

The breakdown of registration is as follows: first dental year 33, second dental year 31, third dental year 27, fourth dental year 25, making a total of 116 dental students. There are 15 and 13 students respectively in first and second year dental hygiene classes. Graduate enrolments are: master of science in dentistry 3, doctor of philosophy 3.

Royal Canadian Dental Corps

Col. Kearney Visits Eastern Command

Col. B. P. Kearney, Deputy Director General of Dental Services, and Col. R. H. G. Cunningham, Command Dental Officer, Eastern Command, Halifax, Nova Scotia, inspected Royal Canadian Dental Corps facilities and interviewed Corps personnel throughout the Maritimes October 11-19, 1965.

Maj. Harrington at Montreal Convention

Maj. W. H. Harrington, Canadian Forces Headquarters, Ottawa, represented the Director General of Dental Services at the Montreal Dental Club Fall Clinic, October 25-27. A new exhibit illustrating the varied roles of auxiliary dental personnel in the Royal Canadian Dental Corps was displayed at the meeting.

Five Officers Promoted

Canadian Forces Headquarters recently

announced the promotion of the following Royal Canadian Dental Corps officers:

Lt.-Col. **C. M. Cornish**, Command Dental Officer, Quebec Command, and commanding officer of No. 15 Dental Company, Montreal, to colonel;

Maj. **W. H. Carter**, commanding officer of No. 1 Dental Detachment, Ottawa, to lieutenant-colonel;

Maj. **J. M. Smith**, headquarters, Western Ontario Area, London, Ontario, to lieutenant-colonel;

Capt. **E. W. Gazo**, No. 1 Dental Detachment, Ottawa, to major; and

Capt. **P. P. Morin**, No. 4 Field Dental Company, Germany, to major.

Three Officers Attend Courses

Maj. **H. K. Meisner**, Fort Churchill, Manitoba, attended a course in oral surgery at Ent Air Force Base, Colorado Springs, Colorado, in October.

Maj. **J. L. M. Masse**, headquarters, Camp Valcartier, P. Quebec, attended a course in October on partial prosthodontics at the U.S. Naval Dental School, Bethesda, Maryland.

Capt. **L. Dombowsky**, R.C.A.F. Station, Chatham, New Brunswick, attended a course in October at the U.S. Naval Dental School, Bethesda, Maryland, in oral pathology.

Four Officers Transferred

Current changes in locations announced by Canadian Forces Headquarters are:

Capt. **L. T. F. B. Archambault**, from H.M.C.S. Cornwallis, Cornwallis, Nova Scotia, to headquarters, Camp Valcartier, P. Quebec;

Capt. **H. Griesbach**, from headquarters, Camp Petawawa, Ontario, to Canadian Contingent, United Nations, Cyprus;

Capt. **J. B. Thompson**, from No. 1 Personnel Depot, Halifax, to H.M.C.S. Cornwallis, Nova Scotia; and

Capt. **P. S. Wade**, from Canadian Contingent, United Nations, Cyprus, to No. 1 Queen's Own Rifles of Canada, Esquimalt, British Columbia.

Capt. Evans Retires

Capt. D. H. Evans, a Royal Canadian Dental Corps administrative officer, recently retired from the Canadian Army Regular Force after 25 years of continuous service.

Throughout his career, starting as a private in August 1940 and commissioned as a lieutenant in May 1951, Capt. Evans served in an administrative capacity at various military headquarters in Canada, Korea and Europe. He has now been appointed administrative assistant to the dean of the Faculty of Dentistry, University of Toronto.

Capt. Evans, who is married and has one daughter, will reside in Scarborough Ontario.

Economics

Fourteen Carriers Offer Dental Insurance in Canada

Fourteen of 98 Canadian firms selling health insurance currently offer dental insurance contracts in Canada, according to a recent survey by the Canadian Health Insurance Association. Twelve companies underwrite dental coverage on a group basis only; two companies do so only on an individual basis.

Most of the companies writing group contracts require a minimum of 50 people in the group. Normally, the participation requirement is 75 per cent of those eligible. The employer contribution must be at least 50 per cent of the cost of insuring employees and dependants.

As in other forms of group health insurance, the plan of coverage can be tailored to the needs of the group, the wishes of the purchaser and the means available for the purchase. Contracts follow deductible and co-insurance principles and benefits are normally unscheduled. Two companies report that benefits under their contracts are payable in accordance with a dental association fee schedule and several follow a benefit schedule listed in the contract. There is a maximum amount of benefits which is payable under the contract to any one covered person.

On the average, figures reported suggest that comprehensive dental coverage for a family of three or more persons is available at rates ranging from approximately \$7.50 to \$9.00 per month.

One Out of Five Utilize Alberta Pensioners' Dental Service

Latest statistics of the Alberta Pensioners' Dental Treatment Service have been made available. In 1964, a total of 65,449 pensioners and their dependants were eligible under the scheme. Of these, 14,462 (22.1 per cent) utilized the dental benefits. The cost to the people of Alberta was \$25.11 per person receiving dental services—a total of \$363,091.

The percentage participation has remained relatively constant from year to year. Almost half of the people eligible under this service are 60 years of age or older. Only 8.9 per cent of these people accepted the service. If figures for this latter group are deleted, the percentage utilization for all other groups combined is 35.1 per cent.

A.M.A. Rejects Medicare Boycott

The House of Delegates of the American Medical Association at a recent special session overwhelmingly rejected proposals for a physicians' boycott of the government's social security-health care program for the elderly. Instead, the delegates voted for resolutions under which physicians who are A.M.A. members may refuse to participate in the program as individuals provided they do not violate ethical obligations to patients. By this action the A.M.A. House reaffirmed the position taken at its June meeting in New York.

Closed Panel Starts in Los Angeles Area

The Southern California State Dental Association has reported the establishment of a closed panel dental clinic in Santa Ana for eligible beneficiaries of the Retail Clerks Unions and Food Employers Benefit Fund.

The administrator of the Fund told S.C.S.D.A. that this action was necessary because insufficient private practitioners were willing to provide dental care to eligible retail clerks under the Benefit Program.

In a special bulletin, S.C.S.D.A. commented that California's Orange County dentists attributed this development to "an intensive campaign to oppose the open panel program by members of the Council on Dental Information—an organization declared to be a disruptive influence by the Executive Council of the Southern California State Dental Association."

Fluoridation

Fluoride Votes Lost in Alberta

Fluoridation plebiscites, in three southern Alberta municipalities failed to achieve the required 66 2/3 per cent approval in October. In Taber and Lethbridge, this was the third time fluoride votes failed.

After defeating a similar measure two years ago, voters in Brooks voted over 62 per cent in favour this time, but still not enough to enact a by-law. The vote in Taber was 59 per cent for fluoridation. In Lethbridge, the proposal was defeated 4,167 to 3,319.

Britain "Guarantees" Fluoridation

The British Ministry of Health has issued a circular on fluoridation to all health departments in England stating that it is "prepared to indemnify any local health authority or statutory water undertaking in England or Wales, in the event of legal proceedings, either on lack of powers or on damage to health . . ." Acknowledging that fluoridation is "now an established and well proven public health measure," the Ministry urged all local health authorities in England to begin fluoridating their water.

Indemnity will be granted for:

Any costs or damages incurred by the local health authority because of alleged

injury to health from fluoridation or lack of power to fluoridate, providing there is no negligence on the part of the local health department; and

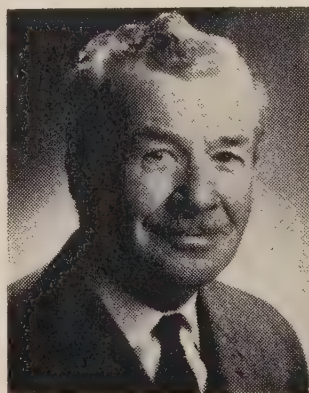
Any expenditure incurred with the maintenance of equipment for fluoridation when the health authority has been prevented by legal proceedings from carrying out fluoridation.

The British National Health Service Act of 1946, as amended in 1963, provides for the fluoridation of community water supplies as a part of the local health department's authority.

Public Health

O.P.H.A. Meeting Well Attended

Over 800 delegates were registered when the Ontario Public Health Association held its 16th annual convention in Toronto September 29-October 1. This was a record attendance.



A. B. Sutherland

A. B. Sutherland of Sudbury ended his term of office as president at this meeting. Dr. Sutherland is director of dental services for the Sudbury and District Health Unit and a member of the Board of the Royal College of Dental Surgeons of Ontario.

Canadian Dental Association Secretary W. G. McIntosh of Toronto presented a paper on "Dental Health for Canada" to a general session of the meeting. The Dental Public Health section meetings

were under the chairmanship of M. E. Jarrett of Fergus, Ontario.

G. T. Mitton of Toronto, former professor of dental public health at the Faculty of Dentistry, University of Toronto, was one of five recipients of honorary life membership in the O.P.H.A. This is the highest award which the association bestows and Dr. Mitton is the first dentist to be so honoured.

Ontario P.H. Dentists Meet

Ontario public health dentists discussed necessary measures for achieving specialty status for dental public health when the Ontario Association of Public Health Dentists held a business session during the annual meeting of the Ontario Public Health Association, Toronto, September 29.

Members of the O.A.P.H.D. also plan to outline a suggested graduate public health course for dental hygienists which is to be submitted to the University of Toronto Senate. Purpose of this course is to qualify dental hygienists for supervisory positions in public health service.

F. A. Kohli, Toronto, was elected as the new chairman of the O.A.P.H.D. He succeeds R. E. Feasby, also of Toronto. J. M. W. Lawrence of Scarborough is secretary.

Teeth Improve but Toronto Population Grows Faster

Ten years of systematic health teaching and dental inspection by dental hygienists combined with intensive follow-up treatment have produced notable dental improvements in children entering kindergarten in Toronto's Riverdale district, reports city dental director H. S. Grey.

His 1964 annual report illustrates this by a comparison of the following 1954 and 1965 dental indices for Riverdale five year olds: no dental defects 19.05 and 47.13 per cent; no caries defects 24.76 and 50.95 per cent; deciduous tooth mortality 42.86 and 24.84 per cent; permanent and deciduous teeth per child needing restoration 3.30 and 1.66; caries free children 14.29 and 35.67 per cent; def teeth per child 5.40 and 3.48.

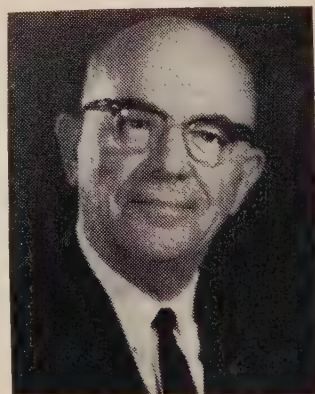
Despite these encouraging results and an overall improvement in dental health, Dr. Grey warns that a cut-back in services is inevitable unless the personnel of the Toronto Health Department's dental division is expanded to keep pace with increasing demands from the city's continually growing school population—now in excess of 124,000.

During 1964, 16.09 per cent of the city's school children were victims of complete dental neglect, writes Dr. Grey. He also points to an ever increasing number of older school children who cannot afford the services of a private dentist. These children are unable to obtain dental service elsewhere, yet the resources of the dental division are fully taxed.

Dr. Grey urges a modest increase in the number of clinicians to complement the benefit of other preventive measures such as preschool teaching and demonstration programs and fluoridation.

Awards and Honours

Former University of Toronto professor of dental public health **G. T. Mitton** was elected to honorary life membership by the Ontario Public Health Association on October 1. A former president of the O.P.H.A., Dr. Mitton is the first dentist so honoured by that association.



G. T. Mitton

Adjutor Jinchereau, Quebec City, **Alexandre Mélady**, Ste-Marie de Beauce, and **Aquilas Picard**, Montreal, were named honorary members of the Quebec College of Dental Surgeons following 50 years of uninterrupted dental practice.

Congrès à Halifax en 1966

Les dentistes de la Nouvelle-Ecosse et particulièrement ceux de Halifax sont à préparer la prochaine réunion annuelle de l'A.D.C. qui se tiendra à Halifax en 1966. Le Conseil des Gouverneurs se réunira du 8 au 11 juin, et le congrès national aura lieu du 12 au 15 juin.

Les prochains congrès se tiendront à Toronto en 1967, Vancouver en 1968, Montréal en 1969 et Winnipeg en 1970.

L'Association

Le Président en tournée dans l'Est

Au mois d'octobre dernier, le président de l'Association dentaire canadienne, le Dr P. S. Christie, a visité des sociétés dentaires dans l'est du Canada. Il était accompagné, au cours de son voyage, par le secrétaire de l'Association, le Dr W. G. McIntosh de Toronto.

Les réunions inscrites à leur programme eurent lieu: à Halifax le 18 octobre, à Charlottetown le 19 octobre, à Saint-Jean le 20 octobre, à Québec le 21 octobre; et enfin au Fall Clinic du Montreal Dental club, du 24 au 27 octobre.

Nouveaux dépliants de l'Association

En s'adressant aux quartiers généraux de l'Association dentaire canadienne, on peut maintenant se procurer deux nouveaux dépliants: l'un sur les programmes de soins dentaires pré-payés, l'autre sur les programmes d'épargne et de retraite.

La *Déclaration de politique au sujet des plans dentaires pré-payés* décrit la politique de l'Association à ce sujet, telle que l'a approuvée le Conseil des Gouverneurs à sa réunion de 1964. Cet énoncé a aussi paru en français et en anglais dans le numéro d'octobre 1964 du Journal.

Le *Plan d'épargne-retraite de l'Association dentaire canadienne* décrit les trois fonds disponibles dans ce programme, les bénéfices fiscaux que présente un plan d'épargne enregistré, et beaucoup d'autres détails relatifs aux investissements, à la gérance et à l'administration du plan de l'A.D.C.

Canada

Le Dr Paynter nommé membre du Comité du Conseil fédéral de la santé publique

Le docteur K. J. Paynter de la Faculté de chirurgie dentaire de l'Université de Toronto a été nommé membre du Comité consultatif des recherches en hygiène publique du Conseil fédéral de la santé publique. Cette nomination, effective à partir du 1er octobre, est faite pour une période de trois ans. Le docteur Paynter est le premier dentiste à devenir membre de cet important comité consultatif fédéral.

Chronique internationale

L'A.D.A. approuve un troisième dentifrice au fluorure stanneux

L'American Dental Association a approuvé un troisième dentifrice, la pâte dentifrice 'Fact,' qu'elle croit "efficace dans la prévention des caries." Le Council on Dental Therapeutics de l'A.D.A. a classé ce dentifrice de la compagnie Bristol-Myers dans le groupe B (réservé aux produits dont l'utilité et la sûreté ont été approuvées). Le dit Conseil a autorisé la compagnie Bristol-Myers à associer à son produit l'affirmation suivante: "La valeur de Fact en tant que dentifrice prévenant la carie a été démontrée, et son efficacité dans la mise à bien d'un programme d'hygiène buccale et de soins professionnels consciencieusement suivi, est irréfutable."

L'an dernier, le Conseil avait reclassé la pâte dentifrice 'Crest,' fabriquée par Procter and Gamble, dans le groupe A (dont font partie les remèdes dentaires approuvés), et classé la pâte dentifrice 'Cue,' manufacturée par Colgate Palmolive, dans le groupe B.

Dans son rapport au sujet de 'Fact', le Conseil a déclaré: "Les fabricants ont présenté les données d'une enquête pendant deux ans avec la collaboration d'un groupe d'écoliers de 10 à 19 ans, dont la plupart avaient de 11 à 17 ans . . . Les données portant sur une année, tout comme celles qui englobent les deux années, indiquent une diminution du taux des caries dentaires . . . Les résultats obtenus révèlent une baisse d'environ 13 pour cent après un an, et de 25 pour cent au bout de deux ans.

Prochain congrès de la F.D.I. à Tel Aviv

Le 54ème congrès annuel de la Fédération dentaire internationale se tiendra à Tel Aviv du 10 au 17 juillet 1966.

Au programme scientifique, on remarque les sujets suivants:

Nouveaux développements en art dentaire, éducation dentaire, prothèses, responsabilités de la dentisterie organisée vis-à-vis les pays en état de développement, recherche dentaire;

Considérations biologiques en rapport avec la périodontie;

Prévention en clinique;

La biologie de la dent et ses réactions de défense.

On annonce aussi quatre symposiums: derniers progrès dans le développement des matériaux dentaires, voies d'administration des fluorures autres que la fluoration de l'eau, art dentaire et sciences sociales, corrélation entre les épreuves de laboratoire et les essais cliniques des matériaux dentaires.

On remarque en outre au programme, pour le 10 juillet, l'Assemblée générale A; le 11 juillet, cérémonie d'ouverture; et le 17 juillet, l'Assemblée générale B.

Les quartiers généraux du congrès seront à l'hôtel Hilton de Tel Aviv. On trouvera dans le bulletin de janvier de la F.D.I. les formules d'inscription et de réservation pour les hôtels.

Congrès des Antilles à Trinité en février 1966

La Société dentaire de Trinité et de Tobago organisera le 5ème Congrès dentaire des Antilles à Port-d'Espagne, Trinité, du 12 au 18 février 1966.

Les dentistes canadiens sont spécialement invités à se rendre à cette réunion où l'on traitera de chirurgie buccale, de prothèse, de dentisterie opératoire, d'endodontie, de périodontie, de pédodontie, de couronnes et ponts, et d'administration.

Pour renseignements supplémentaires, communiquer avec K. H. Henry, convention chairman, Dental Association of Trinidad and Tobago, 110 Frederick Street, Port-d'Espagne, Trinité.

Séminar sur l'occlusion à Chicago

L'American Academy of Occlusodontia tiendra son séminar annuel le 26 février 1966 à l'hôtel Conrad Hilton de Chicago.

Parmi les panellistes, on remarque: L. W. Boyd — tracé fonctionnel en prothèse complète; J. W. Cosper — occlusion fonctionnelle pour les reconstructions totales; A. G. Lauritzen — l'axe de rotation et l'occlusion fonctionnelle en prothèse complète; V. O. Lucia — l'axe de rotation en reconstruction complète. Le modérateur sera N. A. Shore.

L'inscription est de \$35.00. Pour tout renseignement, écrire à F. G. Biedka, secretary, 6710 W. North Avenue, Chicago, Illinois 60635, U.S.A.

Cours post-scolaires à l'Université Tufts

L'Ecole de médecine dentaire de l'Université Tufts de Boston offre un grand choix de cours post-scolaires. Il y a trois programmes post-gradués en pathologie buccale: un programme d'un an pour cliniciens, professeurs et chercheurs; un programme de deux ans qui prépare aux examens de l'American Board of Oral Pathology et qui peut aussi permettre d'obtenir une maîtrise en sciences; enfin, un cours de trois ans pour ceux qui seraient intéressés à se faire une carrière dans la recherche.

On a mis sur pied un programme de

trois ans pour ceux qui désirent préparer l'examen du certificat de l'American Board of Oral Surgery. Les cours de la première année auront lieu à l'école dentaire de l'Université Tufts et traitent de sciences de base et de sciences appliquées. Les études des deux autres années ont lieu au Boston City Hospital à titre d'interne et de résident.

On offre aussi un cours de sciences de base en chirurgie buccale pour ceux qui désirent rencontrer les exigences du certificat de l'American Board of Oral Surgery.

Le cours I en périodontie comprend deux ans d'études pour les dentistes intéressés à préparer un certificat en périodontie. Le cours II de périodontie ne dure qu'un an, mais s'adresse à des candidats désireux de devenir spécialistes et qui ont déjà passé un an à étudier la périodontie dans une autre école. Le cours III s'adresse à ceux qui sont intéressés à la recherche et à l'enseignement tout en désirant préparer un certificat de spécialiste en périodontie.

Pour tout renseignement, s'adresser, à la Division des Etudes post-graduées, Ecole de médecine dentaire, Université Tufts, 136 Harrison Avenue, Boston, Massachusetts 02111, E.-U.

L'A.D.A. compte 104,102 membres

L'American Dental Association compte, au 30 septembre, 104,102 membres répartis comme suit: 90,036 membres actifs et membres à vie; 466 membres affiliés, 82 membres associés, 74 membres honoraires et 13,444 membres étudiants.

Infirmières dentaires en Tasmanie

Le programme de santé dentaire de Tasmanie prévoit l'emploi d'infirmières dentaires du genre de celles de la Nouvelle-Zélande.

On prévoit aussi un service d'orthodontie.

Un premier groupe de dix candidates commencera son entraînement à Hobart l'an prochain. On prévoit employer un total de 30 infirmières sous le contrôle des officiers dentaires du département.

Facultés dentaires canadiennes

Nouvelle faculté dentaire

A une réunion d'anciens tenue à Ingersoll, Ontario, le docteur W.J. Dunn, doyen de la Faculté de chirurgie dentaire de l'Université Western Ontario, a déclaré que son école pourra recevoir 268 étudiants dentaires. La faculté ne doit être prête qu'en 1967, mais le docteur Dunn espère pouvoir recevoir une petite classe d'étudiants dès l'automne 1966.

Cette faculté offrira des cours post-scolaires et des cours de perfectionnement pour les dentistes de cette région de l'Ontario.

Une faculté dentaire en Saskatchewan

Après plusieurs années d'instances de la part de la profession dentaire, le gouvernement de la province de Saskatchewan a enfin annoncé l'octroi de \$2¼ millions pour la fondation d'une faculté dentaire à l'Université de Saskatchewan, à Saskatoon.

D'après M. George Trapp, Ministre de l'Education, cette école devrait admettre ses premiers étudiants en 1967. Bien que l'emplacement exact de la faculté n'ait pas encore été choisi, tout semble indiquer qu'elle fera partie des bâtiments de l'école médico-hospitalière de l'Université. L'on espère qu'à partir de 1971 cette faculté décernera 30 à 35 diplômes en art dentaire chaque année. Il est également fort possible qu'une école d'hygiène dentaire lui soit annexée.

Voilà déjà bien longtemps que les dentistes de la province et l'Association dentaire canadienne sollicitent l'établissement d'une faculté dentaire au Saskatchewan; requête d'ailleurs appuyée par l'Advisory Planning Committee on Medical Care (Saskatchewan 1962), et par la Commission royale d'enquête sur les services de santé.

C'est la troisième fois au cours des trois dernières années que nous annonçons la fondation d'une nouvelle faculté dentaire. Celle-ci représente maintenant la neuvième de son espèce au Canada.

Economie

Quatorze firmes offrent au Canada des assurances dentaires

D'après l'enquête récemment effectuée par le Canadian Health Insurance Association, sur 98 firmes canadiennes vendant des assurances-santé, il y en a 14 qui offrent actuellement des contrats d'assurance-dentaire. Douze d'entre elles n'acceptent de le faire que pour des groupes; les deux autres par contre n'assurent que les individus.

La plupart des compagnies qui formulent des contrats à l'intention de groupes, exigent que ceux-ci comportent un minimum de 50 personnes. Habituellement, la participation doit être de 75 pour cent. La contribution de l'employeur doit s'élever à au moins 50 pour cent des frais que représenterait une assurance pour employés et personnes à charge.

Tout comme les autres genres d'assurance-santé destinés à des groupes, le plan d'assurance-dentaire peut être conçu de façon à répondre aux besoins du dit groupe, aux désirs de l'acheteur et aux moyens dont dispose ce dernier. Les contrats sont fondés sur les principes de co-assurance et de déduction, et les versements ne sont généralement pas déterminés. Deux compagnies ont déclaré que leurs contrats se conforment à un programme d'honoraires établi par une association dentaire, en ce qui concerne les paiements. Diverses autres suivent sur ce point, un programme inclus dans leur contrat. Toutefois, aux termes de ces contrats, un taux limite est fixé pour chaque personne assurée.

Dans l'ensemble, les chiffres recueillis démontrent qu'il existe des assurances-dentaires à l'intention de familles composées de trois personnes ou plus, lesquelles coûtent mensuellement de \$7.50 à \$9.00 environ.

Canadian Fund for Dental Education

Listed below are the names of individuals on whose behalf Living Memorial donations were received by the Canadian Fund for Dental Education during the past year.

Voici la liste des personnes décédées en mémoire desquelles leurs parents et amis ont envoyé, au cours de l'année précédente, une donation au Fonds canadien pour l'enseignement dentaire.

Dr. H. S. Allen
Dr. A. Atkins
Dr. C. H. Avery
Mr. Edwin Blackmer
Mrs. W. M. Blair
Dr. L. W. Caldbick
Dr. O. S. Clappison
Miss Gillian Christie
Dr. A. E. Chegwin
Dr. C. A. Corrigan
Mr. Kenneth Daly
Mr. H. L. Denton
Dr. M. D. Finnigan
Dr. W. H. Geddes

Fonds canadien pour l'enseignement dentaire

Mrs. B. Healy
Mr. Aubrey A. Leckie
Mrs. Gertrude Martin
Dr. G. G. McKenzie
Dr. D. L. Oatway
Dr. P. P. Reibin
Dr. P. B. N. Samuel
Mr. A. A. Shaw
Mr. R. D. Sheret
Dr. R. J. Stewart
Mr. Ed Swan
Mrs. M. E. B. Wallace
Mr. J. H. Watson
Mrs. P. W. Winthrope

A donation in memory of all Ontario dentists who died in 1965.

Advanced Periodontal Disease: Surgical and Prosthetic Management

J. F. Prichard. Philadelphia and London, W. B. Saunders Company, 1965. (Available from McAinsh & Co. Ltd., Toronto) 573 p. Illus. \$21.60

The publisher is a well established company in North America and the author is well known to periodontists; so, this book was anticipated with some pleasure. But this reviewer was disappointed with the efforts of both, although there are some relieving features.

The author makes it clear from the beginning that he intends to deal with the treatment of advanced periodontal disease. This reviewer, therefore, expected the author to adhere to his title. Instead, we find many chapters containing material on periodontics usually found in undergraduate texts. There is also much material on associated subjects such as pathology, surgery and medicine. The book is not only padded with completely unnecessary material, but the style of writing is painful to a reader who wants to enjoy reading. Lengthy case histories are a thing of the past and should be rejected out of hand in a book like this. There is nothing in this book that is not already dealt with in other so-called established undergraduate books published on this continent by the same publisher. The impression remains that this is just another big and expensive book on the practice of periodontics by a first class practising periodontist. The publisher and author would have done better to publish a book a quarter of the size at a quarter of the price and exclusively devoted to "advanced periodontal disease: surgical and prosthetic management." There is need for such a text and the author has the clinical experience to write such a book, for the central chapters in the present text exhibit his ability in this regard. Let us hope this dream can materialize for the author's illustrations are almost without exception superb and so is their reproduction.

In its present format one cannot recommend this book strongly to any particular group of readers. Perhaps the title and foreknowledge of the author's abilities led the reviewer to expect a gem of a monograph only to find that the best aspects of the author's talent have been buried in a welter

of unnecessary detail. Perhaps a new edition will really show the author's abilities.

J. R. Trott

Dorland's Illustrated Medical Dictionary

W. A. N. Dorland, Ed. 24. Philadelphia and London, W. B. Saunders Co., 1965. (Available from McAinsh & Co. Limited, Toronto) 1724 p. Illus. \$14.00

This latest edition of *Dorland's Medical Dictionary* brings this familiar text right up to date again. The various changes are far too numerous to mention in any detail, but one notes that the new *Nomina Anatomica* has been included to approach a more nearly universal terminology in the field of anatomy. Each separate field of medicine has been reviewed and updated by a contributing specialist. It is of special interest that the dental field has been reviewed by the staff of the dental school of the University of Indiana. The physical features continue the fine quality of paper and readability of print. It is an excellent book and should be the first acquisition in anyone's professional library.

H. A. Hunter

Dental Pharmacology

G. W. Pennington, Oxford, Blackwell Scientific Publications, 1965. (Available from the Ryerson Press, Toronto) 158 p. \$6.00

This text, like others written by Englishmen, is brief and to the point. For the purpose of quickly refreshing the reader's memory, or to bring him up to date on presently available new drugs, the book should prove valuable.

There are two parts. In the first, the author deals with general pharmacological principles. In the second he describes specific preparations as prescribed by dentists, with emphasis on toxicity, choice, drugs for children, and complications arising from systemic diseases. An index is provided giving official and proprietary names.

Clifford Reynolds

Additions • Acquisitions

AMERICAN DENTAL ASSOCIATION. The chairside instructor. 1961, 13p. 51 illus. \$1.35

AMERICAN DENTAL ASSOCIATION. COUNCIL ON DENTAL EDUCATION. Policies and guidelines for the training of dental auxiliaries. 1st ed. June 1965. Chicago, American Dental Association. 21 p.

APPLEGATE, O. C. Essentials of removable partial denture prosthesis. Ed. 3. Philadelphia, Saunders, 1965. 436 p. illus. \$16.20

BENNETT, C. G. Pulpal Management of deciduous teeth. (Practical Dental Monographs, May-June, 1965.) 38 p. illus. Plus Table Clinic Reviews: Berman, Marvin H. Restoration of severely broken-down teeth. L'Orange, Finn F. An effective dry socket dressing.

BHASKAR, S. N. Synopsis of oral pathology. Ed. 2. St. Louis, Mosby, 1965. 526 p. illus. \$11.10

BOUYSSOU, M., LEPP, F.H. and ZEROSI, G. Resorptions dentaires et biologie osseuse; dental resorptions and bone biology; physiopathologie - radiologie - implications thérapeutiques. Liege, Belgique, Sciences et Lettres, 1965. 613 p. illus. \$24.00

BROWN, T. M. Canadian economic growth. Royal Commission on Health Services. Ottawa, Queen's Printer, 1965. 316 p. \$3.50

BURKET, L. W. Oral medicine. Ed. 5. Montreal, Lippincott, 1965. 644 p. illus. \$16.50

HANSON, E. J. The public finance aspects of Health Services in Canada. Royal Commission on Health Services. Ottawa, The Queen's Printer, 1964.

HOWARD, W.W. and PARKS, A.L. Carnahan's The dentist and the law. Ed. 2. St. Louis, Mosby, 1965. 233 p. \$9.40

JOHNSTON, J. F. ET AL. Modern practice in crown and bridge prosthodontics. Ed. 3. Philadelphia, Saunders, 1965. 599 p. illus. \$14.15

LUOMA, H. Lability of inorganic phosphate in dental plaque and saliva; its appearance in association with some other factors related to dental caries. (Acta Odontologica Scandinavica, Vol. 22, Supp. 41, 1964.) 127 p. \$8.00

PUBLIC DENTAL HEALTH SERVICES: WORLD-WIDE. Conference, November 6, 1964, in conjunction with the annual sessions of the A.D.A. and F.D.I., in San Francisco. (Chicago, 1965) 62 p. Distributed by American Dental Association.

TENNESSEE STATE DENTAL ASSOCIATION. A regional training conference on principles of prepaid dental care, January 14-16, 1965. Nashville, Tennessee. 110 p.

THE DENTAL CLINICS OF NORTH AMERICA, July 1965. Symposia on I. The efficient dental practice. II. Preventive dentistry. Philadelphia, Saunders, 1965. Pages 267-413; 415-533.

ULETT, G.A. and PETERSON, D.B. Applied hypnosis and positive suggestion; in medicine, dentistry and patient care. St. Louis, Mosby, 1965. 134 p. \$9.20

U. S. THE PRESIDENT'S COMMISSION ON HEART DISEASE, CANCER AND STROKE. A National program to conquer heart disease, cancer and stroke. Washington, U.S. Govt. Printing Office. 644 p. \$3.00

WUEHRMANN, A. H. AND MANSON-HING, L. R. Dental radiology. St. Louis, Mosby, 1965. 436 p. illus. \$16.20

in memoriam

WILMAR BERTRAND T. AMY—Dr. W. B. T. Amy of Toronto died on September 3, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1900. Dr. Amy is survived by his wife, Vernabelle.

MAURICE BOULET—Le Dr Maurice Boulet de Montréal est décédé le 20 juillet 1965 à l'âge de 52 ans. Il était né à Joliette, P. Québec, en 1913 et obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1926.

JAMES KENNEDY BRIMACOMBE — Dr. J. K. Brimacombe of Victoria, British Columbia, died on October 7, 1965. He was 80. Born in Manitoba in 1885, Dr. Brimacombe graduated from Northwestern University in 1911. Following graduation he practised for a time in Weyburn, Saskatchewan. Dr. Brimacombe is survived by his wife, Clara.

THELMA LENORE COLEMAN—Dr. T. L. Coleman of Toronto died on September 9, 1965, at the age of 63. She was born in Toronto in 1902 and graduated from the University of Toronto in 1926. Dr. Coleman practised for three years after graduation in Houston, Texas, and then in Toronto.

COLIN HUBERT CRAIG—Dr. C. H. Craig of Amherst, Nova Scotia, died on October 14, 1965, at the age of 81. He was born in Hantsport, Nova Scotia, in 1884. Dr. Craig graduated from the Baltimore College of Dental Surgery in 1906. He was a past president of the Nova Scotia Dental Association. Surviving Dr. Craig are two daughters, Mrs. D. Ryan of Port Arthur, Ontario, and Muriel Jean at home; a sister, Jean of Amherst; a brother, Kenneth of Claresholm, Alberta; and three grandchildren.

ATHANASE M. DUCHARME—Le Dr Athanase M. Ducharme âgé de 49 ans, est décédé à Toronto, le 16 août 1965. Il naquit à St-Ambroise, Co. de Joliette, P. Québec, en 1916. Le Dr Ducharme obtint le doctorat en chirurgie dentaire à l'Université de Montréal en 1946. Il

exerça la chirurgie dentaire d'abord à Montreal puis à Magog, P. Québec.

JOHN CARL DUFF—Dr. J. C. Duff of Collins Bay, Ontario, died September 4, 1965, at the age of 71. He graduated from the Royal College of Dental Surgeons of Ontario in 1921. Dr. Duff is survived by a son, John of Oakville, Ontario, and two brothers, Wallace E. of Washington, and William F. of Inverary, Ontario.

EARL MITCHEL LAURIN — Dr. E. M. Laurin of Montreal died on September 24, 1965, at the age of 71. He was born in Montreal in 1894. Dr. Laurin graduated from McGill University in 1921, winning the Gold Medal for leading the class. He later lectured in the Faculty of Dentistry at McGill University. During World War I, Dr. Laurin served in the Medical Corps. He was a member of the Canadian Dental Association and the Montreal Dental Club. Besides his wife, Ruth, Dr. Laurin is survived by two sons, Duncan of Montreal and David of Toronto, and by two daughters, Mrs. K. McDaniel of Salt Lake City, Utah, and Mrs. R. Macdonald of Brigham City, Utah.

BRADLEY WILLS LINSKOTT—Dr. B. W. Linscott of Brantford, Ontario, died on October 5, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1906 and was made an honorary member of the College in 1952. Dr. Linscott is survived by two daughters, Mrs. A. F. Walls and Mrs. M. E. Potruff, and a son, Bradley.

JOSEPH EDWARD LONGLEY—Dr. J. E. Longley of St. Catharines, Ontario, died on July 21, 1965. He was 65. Dr. Longley was born in St. Catharines in 1899. Following graduation from the Royal College of Dental Surgeons of Ontario in 1924, he practised in Hamilton and St. Catharines. Dr. Longley had served as president of the Niagara District Dental Association from 1946 to 1947 and was a member of the staff of the St. Catharines General Hospital from 1931 to 1953. He is survived by his wife, Ann.

ROBERT DUNCAN MacLEAN — Dr. R. D. MacLean of Sydney Mines, Nova Scotia, died on July 20, 1965. He was 84. Dr. MacLean was born in River Dennis, Nova Scotia, in 1880 and graduated from the Royal College of Dental Surgeons of Ontario in 1913.

HERBERT JOHN McCANN — Dr. H. J. McCann of Toronto died on October 23, 1965. He graduated from the Royal College of Dental Surgeons of Ontario in 1919. Besides his wife, Teresa, Dr. McCann is survived by a daughter, Mother Melanie (Mary), and two sons, John and Paul.

JAMES WILLIAM McDONALD — Dr. J. W. McDonald of Toronto died on August 2, 1965, at the age of 72. He was born in New Glasgow, Nova Scotia, in 1893. Following graduation from the Royal College of Dental Surgeons of Ontario in 1915, Dr. McDonald practised in Dartmouth, Nova Scotia, before going to Toronto. He was president of the Academy of Dentistry from 1930 until 1931. He served with the Dental Department of Sunnybrook Hospital and with the Division of Dental Services of the Toronto Department of Public Health. Dr. McDonald was a captain in the Canadian Dental Corps during World War I and served as a major with the Royal Canadian Dental Corps in World War II. Besides his wife, Jean, Dr. McDonald is survived by a son, Douglas, and two daughters, Mrs. E. H. Despard and Mrs. M. H. Anderson of Sudbury, Ontario.

GEORGE GRANT McKENZIE — Dr. G. G. McKenzie of Vancouver died on July 21, 1965, at the age of 61. He was born in Woodward's Landing, British Columbia, in 1903 and graduated from Washington University (Missouri) in 1928. During World War II he served with the Royal Canadian Dental Corps from 1941 to 1945. Besides his wife, Elizabeth, Dr. McKenzie is sur-

vived by his mother, a brother and two sisters.

EDOUARD PLOURDE — Le Dr Edouard Plourde de Toronto est décédé le 24 septembre, 1965. Il naquit en 1887 aux Trois Pistoles, P. Québec, et obtint le doctorat en chirurgie dentaire à l'Université Laval en 1918. Sa femme, Marie Antoinette, sa fille, Madame F. Macdonald, et ses petits-enfants, Paul, Nancy, Christine et Theresa Macdonald lui survivent.

PETER P. REIBIN — Dr. P. P. Reibin of Nelson, British Columbia, died on June 25, 1965, at the age of 42. He was born in Brilliant, British Columbia, in 1922 and graduated from the University of Oregon in 1948. Dr. Reibin is survived by his parents, Mr. and Mrs. P. K. Reibin of Nelson, and two sisters.

B. J. K. SMITH—Dr. B. J. K. Smith of Perth, Australia, died on August 14, 1965, at the age of 55. He graduated from the University of Sydney, Australia, in 1936. After practising for three years, he came to Toronto where he was admitted to the final year in the Faculty of Dentistry and obtained a D.D.S. degree in 1940. He served with the Royal Canadian Dental Corps before accepting a position with the S. S. White Company, for whom he travelled extensively across Canada. In 1961 he accepted a senior position on the staff of the dental hospital in Perth, Australia, which post he occupied until his death. Dr. Smith is survived by his wife, Margaret.

ROBERT JOHN STEWART — Dr. R. J. Stewart of Vancouver died on July 30, 1965. He was 64. Dr. Stewart was born in Guswold, Manitoba, in 1900 and graduated from the University of Toronto in 1926. Surviving are his wife, Marguerite, one son and one daughter.

Compulsory Water Fluoridation • The introduction of [water fluoridation] to date has been surrounded with a great deal of controversy and acrimonious debate. In part, its non-introduction has been assisted by the peculiarities of the use of the legal-political system of plebiscites to ratify its introduction. The evidence put forward to date by competent dental researchers leaves little justification for its non-introduction as a public health measure comparable to the pasteurization of milk, filtration of public water supplies, and compulsory vaccination against smallpox. In view of the state of the dental health of the population, the present lack of supply of dental services and the increasing demand for these scarce services the dental associations and the provincial and federal public health departments should take immediate action to see that the legal means is made available to make the fluoridation of public water supplies compulsory. — B. A. McFarlane. Dental manpower in Canada. Royal Commission on Health Services. Ottawa, Queen's Printer, 1964.

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